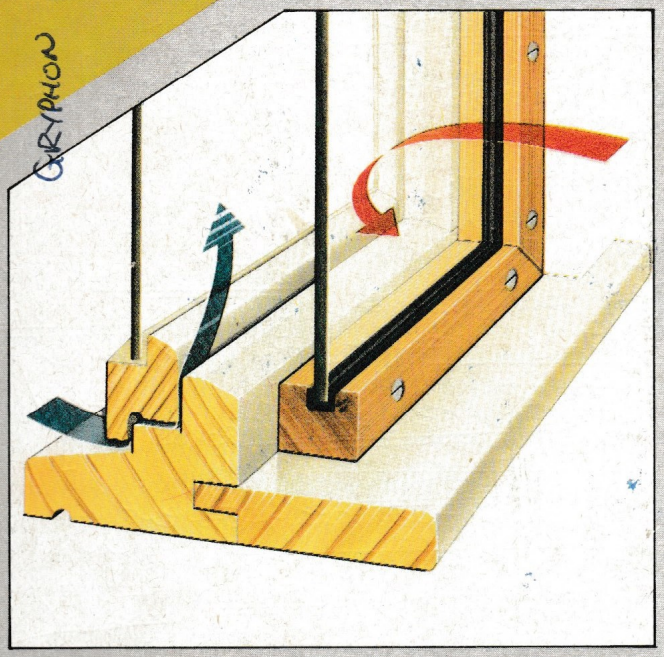
A Marshall Cavendish Publication in weekly parts

Part 17

THE KNACK

The complete manual of DIY skills, projects and home ideas



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THE KNACK

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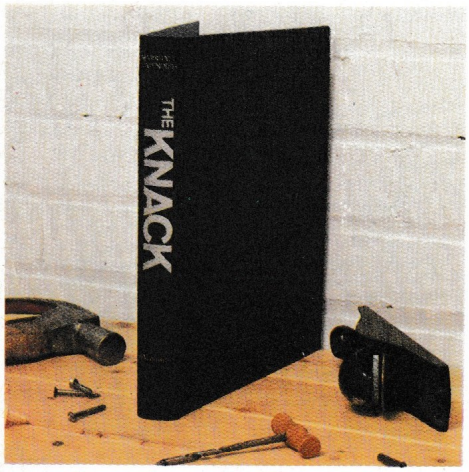

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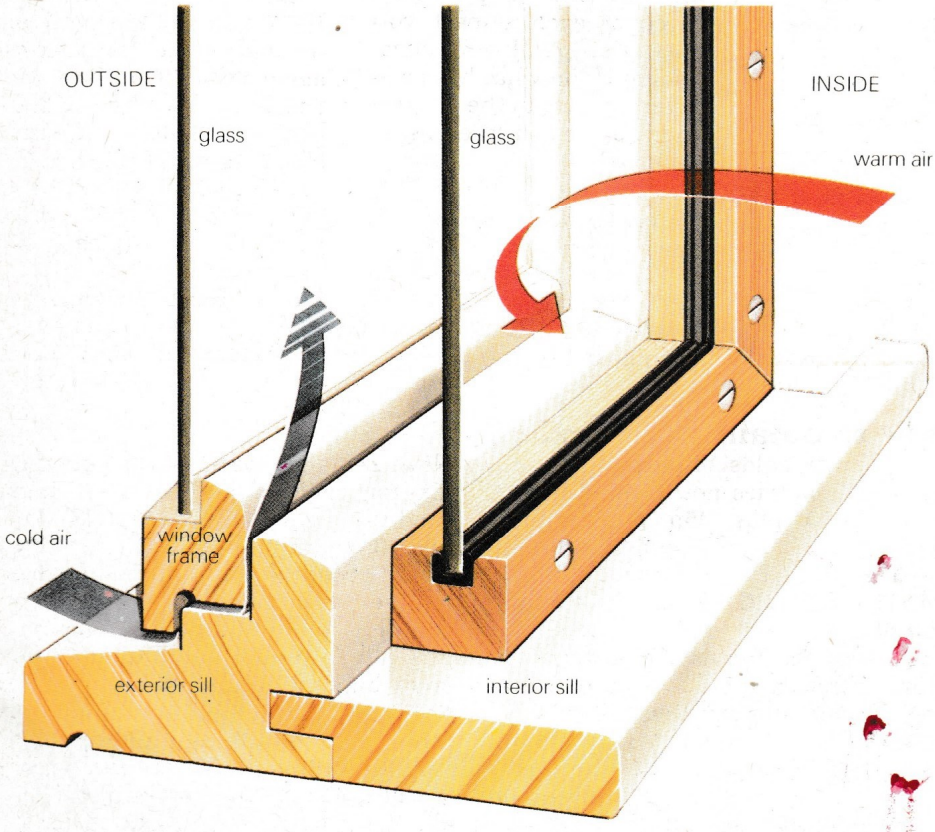
All about double glazing

● The common and not-so-common benefits of double-glazing ● Inexpensive versus costly DIY double-glazing methods ● Sound insulation ● The effect of width space ● Curing condensation problems ● Where to start double-glazing

Any system of glazing that uses two panes of glass or other glazing material in place of one, in such a way that a layer of air is trapped between them, can be accurately described as double-glazing.

There are many arrangements which satisfy this condition—from sheets of polythene taped to the frame of a window, to a complete, professionally-installed double-glazed replacement window. At the one extreme you have a low cost, reasonably effective method of reducing your household heat losses but one that looks cheap and is rather temporary. At the other extreme you have something which looks good and adds considerably to your levels of personal comfort, but costs the earth and is never likely to pay for itself in terms of heating costs that can be saved.

Below: *Fitting most forms of simple double-glazing requires no more than a screwdriver, drill and cutting implements. Here, the side track of a Polycell fixed window kit is being screwed into place in line with top and bottom tracks*



Above: *Secondary double-glazing cuts down the cooling downdraught effect of large areas of glass and eliminates frame draughts*

The realities of double-glazing

Contrary to popular opinion, double-glazing is not the final answer to household heat losses it is sometimes claimed to be. The most efficient forms of double-glazing do no more than halve the heat loss through a comparable area of single glass, which in terms of the average home means no more than a 10 percent saving in overall heat losses. In fact, a bigger saving can be achieved by efficient draughtproofing at substantially smaller cost.

The immediate—and less publicized—benefits of double-glazing include draught elimination, stable temperatures, less window condensation and improved sound insulation. These are extremely attractive in their own right and often the main reason why double-glazing is fitted. The long-term saving on heating costs can then be regarded as an additional benefit. Another long-term benefit can be the chance to fit fewer radiators or a less powerful boiler if a new central heating system is installed in a properly double-glazed house.

Although the obvious solution would seem to be the use of cheap DIY glazing systems, this could be false

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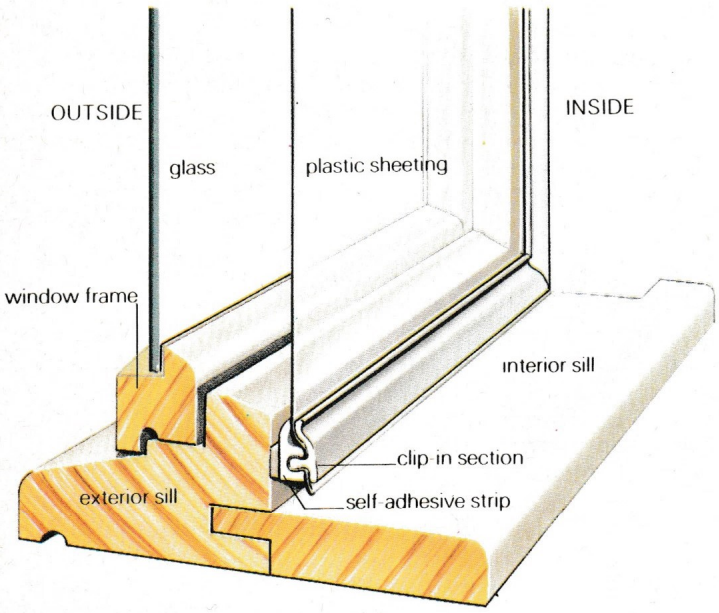
economy unless these are installed properly and in a way suited to the conditions.

Consider the alternative systems carefully. Estimates usually cost nothing and you can then compare the costs of doing the job yourself—and the result you are likely to get—with what is available commercially in kit form or partly completed.

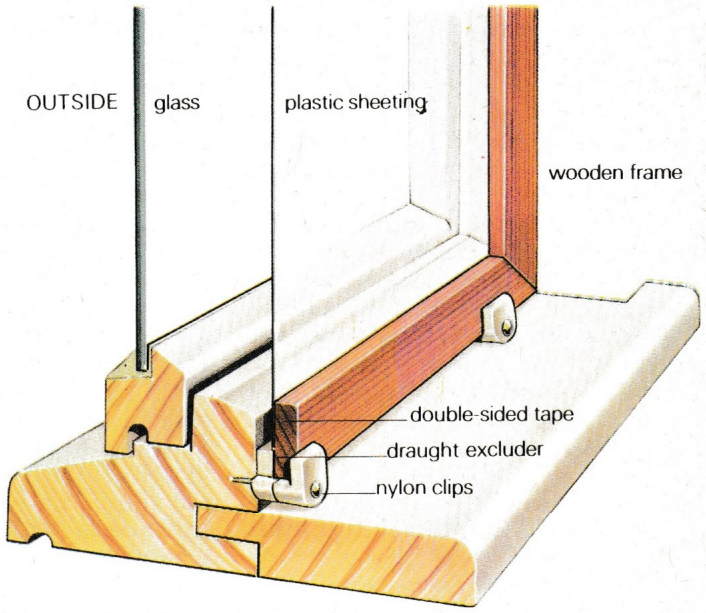
There are a large number of DIY kits on the market. These can be combined or supplemented by readily available components to form systems which are adaptable to a wide variety of applications and window types.

Some firms can provide factory-sealed double-glazing called 'insulating glass' for you to fit in place of existing single glass. This insulating glass is available in more than a hundred standard sheet sizes, but in most instances special sizes can be made to order.

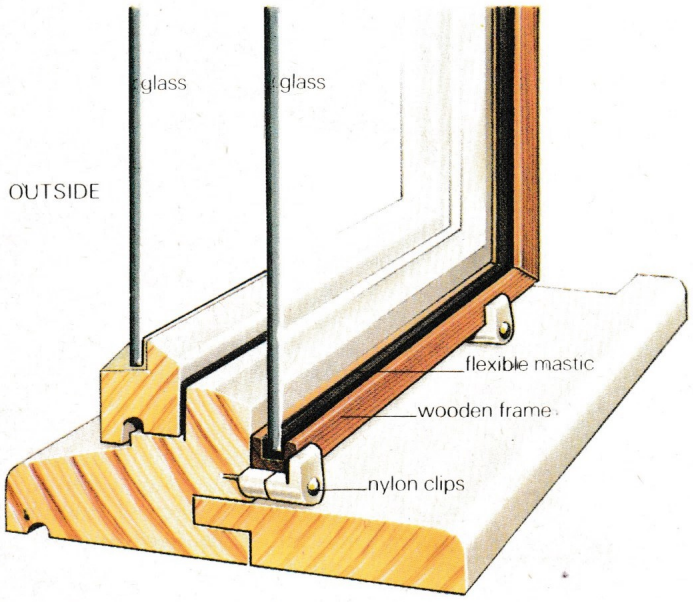
Other firms may be able to provide you with complete, fully-glazed replacement windows. But work of this level is normally best left to the professionals unless you are particularly keen to trim every possible extra cost.



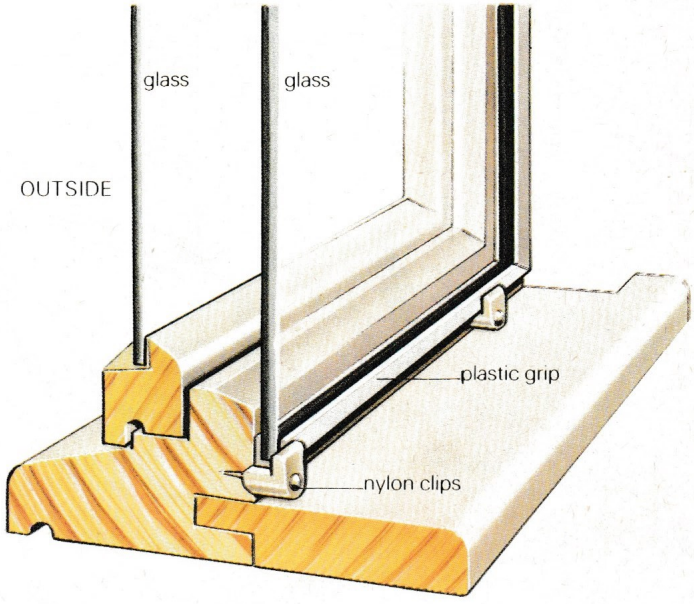
A. *In the Say-vit system, polyester film is held taut across the area of the window by a snap-together frame which is easily cut and fitted*



B. *Another method of fixing plastics sheeting over a window is to use a wooden frame. This can be clipped or screwed into position*



C. *Glass is a much better long-term proposition for secondary glazing, particularly in the case of removable units. A home-made frame is shown*



D. *A clip and frame arrangement is an ideal low-cost solution for the secondary glazing of individual panes and small fixed windows*

Types of double-glazing

At the cheapest end of the scale there is plastics sheeting, available in a variety of thicknesses ranging from that used for food-wrapping to acrylic sheet such as Perspex. In between there are numerous other plastics forms, including the popular middle-of-the-road choice for double-glazing on a budget: acetate sheets, available in various thicknesses.

The disadvantages of thin plastics film, such as food wrap, is that even when fitted well it tends to look terrible. Polythene sheeting is little better, as it tends to whiten and become more brittle when exposed to sunshine. Acetate sheet, which keeps its clarity well, is a better choice—even if there are problems over the dust-attracting static that tends to form, especially near curtains.

A further disadvantage of all forms of plastics sheeting is that it usually has to be discarded when removed for window cleaning. You may also risk damaging the paintwork when you pull away the double-sided adhesive tape normally used to fix the sheet or frame in place (fig. A).

It is possible to incorporate thicker plastics sheeting within a frame arrangement constructed from wood battening or plastic channelling, perhaps using components from of a DIY glazing kit. The frame (fig. B) can clip into place for easy removal when cleaning or storage is required.

For thicker plastics (acrylic) sheet or, even, another sheet of glass, you can make a more substantial frame (fig. C). But this or any other frame and the window frame which supports it, must be capable of taking the weight of the glazing material used.

If you choose to use glass, 4mm float is normally sufficient but your glass supplier will be able to advise on local requirements if you are in any doubt. For small windows and thin 'horticultural' glass, a clip and frame arrangement (fig. D) is normally adequate providing you can achieve a good seal with the window. But take great care not to use a frame of suspect quality for supporting large areas of heavy glass.

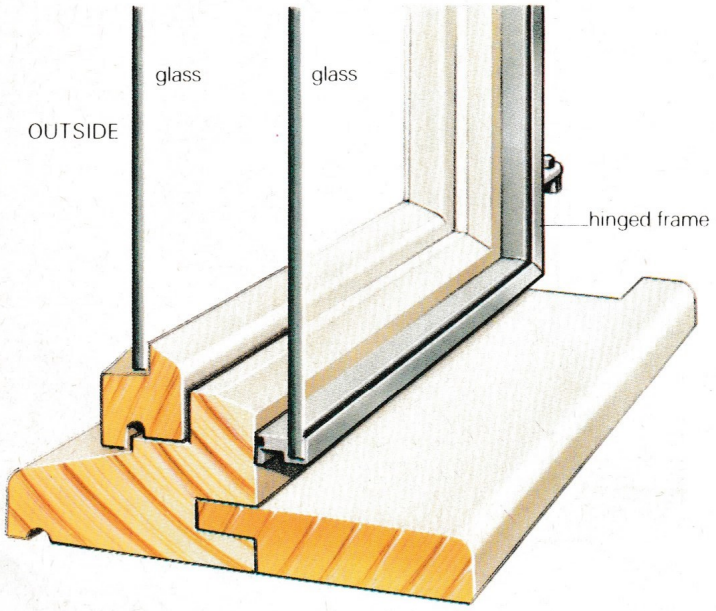
Secondary-sash glazing describes several methods of providing a more permanent form of double-glazing. With these, the second sheet of glass is supported against the window frame by a hinge arrangement (fig. E), or in channels which permit horizontal sliding for opening and closing. Some of these frames are supplied ready-glazed and complete with all fittings, including the seals so important to these designs. Alternatively, you may prefer to construct your own secondary-sash arrangement using components available from DIY stores. All forms of secondary-sash double-glazing permit access for easy cleaning of inner window surfaces, and enable you to open the window for ventilation in dry weather if required.

Extruded aluminium frames are most commonly used for secondary-sash systems, particularly those which are supplied ready-glazed. The best of these have an insulating seal between the inner and outer parts of the frame to prevent heat loss by conduction.

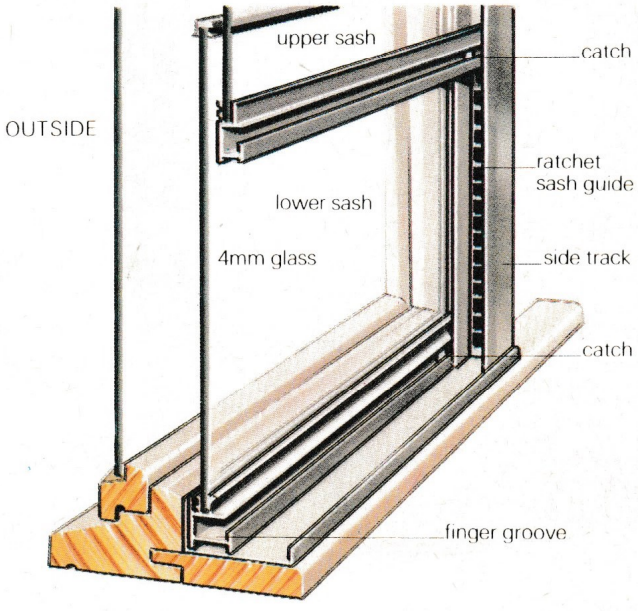
Coupled glazing is an even more 'permanent' variation (fig. G) where, in effect, two window frames are employed in place of one. This arrangement is particularly suitable for windows with a narrow sill which cannot take a sliding secondary sash or other form of glazing frame. Both windows open and close as one, but the additional one is hinged and clipped to enable easy separation for cleaning. A form of coupled window can be used for vertical sash windows, though the counterweights on the cord may need to be increased slightly.

Although coupled windows are available factory-made in a variety of standard sizes, making your own should not present too many difficulties if you have woodwork skills.

Many firms will make up frames or systems to suit your exact needs, and if you instal these yourself, it is a good way of getting good-quality double-glazing at the lowest possible cost. The use of insulating (factory-sealed) glass for direct replacement of existing single-glazing is very often the best of the methods. You can do the job yourself, though care is re-



E. *Aluminium frame kits offer good looks and strength sufficient for fairly large areas of glass, necessary for hinged units. Extra hinges can be used.*



F. *Vertical sash windows may be secondary glazed with a hinged, fixed, or vertically sliding unit such the Polycell version shown above*

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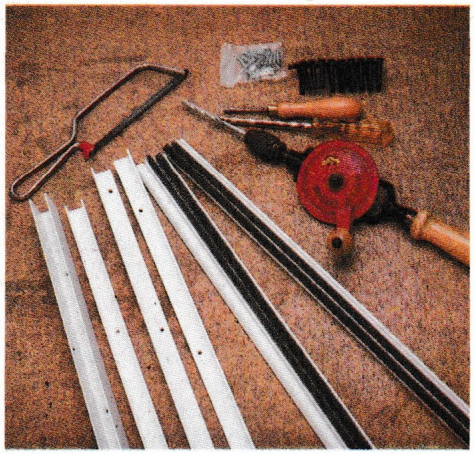
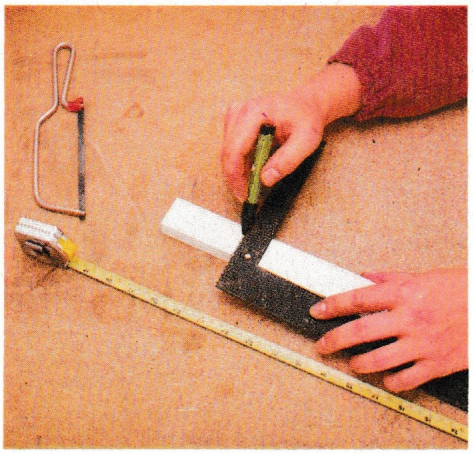
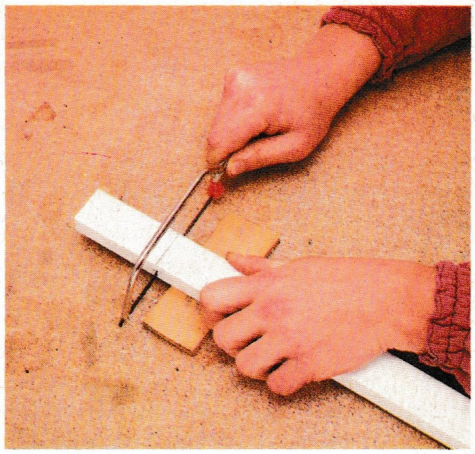


1 *The Polycell kit for fixed secondary glazing and the few tools required for cutting and fixing. Glass of the right size is extra*



2 *Measure off the required length of top track to fit across the width of the soffit or lintel. Use a try square to mark cutting lines*



3 *Use a small hacksaw or fine-bladed saw to cut the track to length. Take your time over the job to ensure a clean square cut*

quired both in handling and installation. These points are covered in the next part of this course, together with custom-built replacement windows and doors and problem windows.

Sound insulation

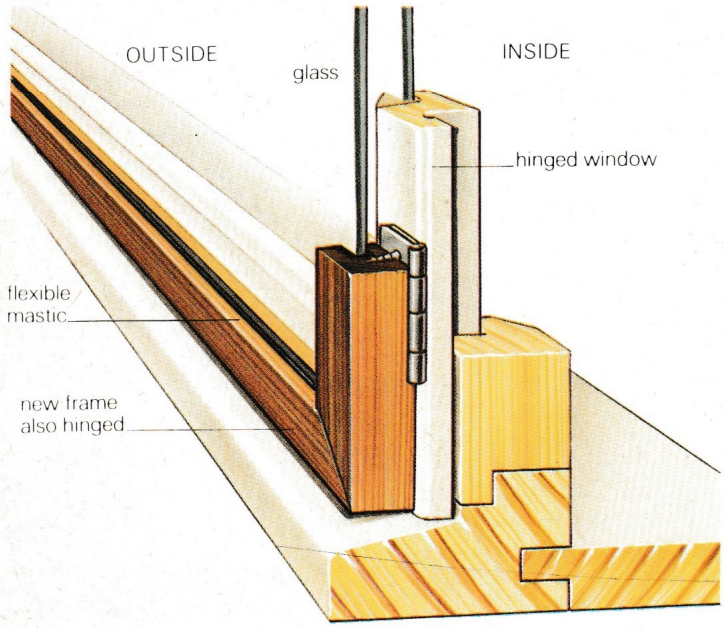
The heat insulation property of double glazing varies with the width of the enclosed air space. The optimum space depends very much on the temperature difference between the inside and outside surfaces, but is usually taken as 20mm in temperate zones when heating is up to normal standards. For easier fitting, this gap is reduced to 12mm in factory-sealed insulating glass and the difference in heat loss can be considered negligible. A gap of less than 12mm leads to progressively greater heat losses.

The heat loss, or *thermal transmittance*, of a single pane of glass under average conditions of use and exposure is taken to be 5.6 watts per square metre of glass, for each degree Centigrade temperature difference between the inner and outer surfaces. This is expressed as 5.6W/m² °C. A 20mm air gap between two sheets of glass almost halves the heat loss to 2.9W/m² °C. Insulating glass (factory-sealed double-glazed units) yields figures of 3.0 and 3.4W/m² °C for air gaps of 12mm and 6mm respectively.

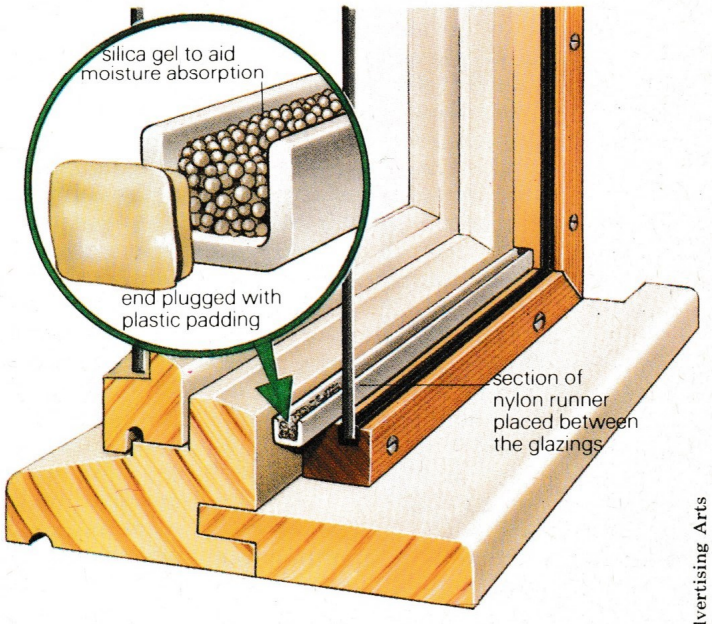
Width of air space

Sound insulation is often one of the most important considerations when planning a double-glazing scheme, particularly if your home suffers greatly from the noise of a busy road or nearby airport.

Any double-glazing reduces noise on account of the trapped airspace between panes and as this gap increases, so sound insulation improves. However, the gap needs to be at least



G. *A coupled window, with the secondary glazing attached to the outside of the existing window frame, leaves the inside unobstructed*


silica gel to aid moisture absorption
end plugged with plastic padding
section of nylon runner placed between the glazings

H. *In semi-permanent arrangements use silica gel to absorb trapped moisture. If air-gap condensation is severe, provide drain holes to outside frame sill*

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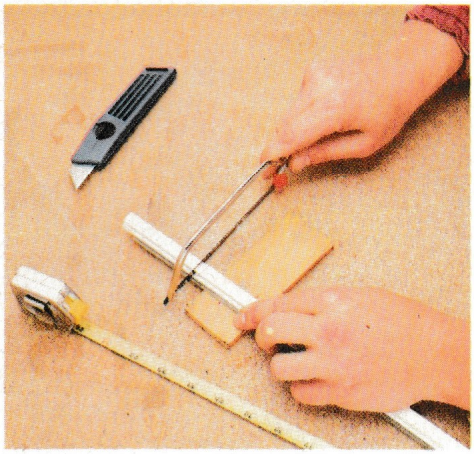


4 *Unless the window frame is known to be truly square, individually measure off and cut the remaining tracks to length*

5 *Position the top track to leave as deep an air gap as necessary before marking screw positions with a bradawl*

6 *Drill pilot holes in the top frame or soffit. Use a masonry bit if you are screwing into plaster, brick or concrete*

100mm—and preferably 150mm with 4mm glass—for the best combination of sound and thermal insulation. While a bigger gap of up to about 400mm improves sound insulation, thermal insulation is greatly reduced because of the convection currents that then have space to form between the two panes of glass.

Whatever type of double-glazing you use, fitting it to allow a gap of 100mm or more is often difficult on most types of domestic window. So, if thermal insulation is important, you may have to make suitable modifications to the window frame surrounds.

Factory-made sealed units usually have an air spacing of between 5mm and 12mm and the sound insulation properties these may have are due only to the weight of glass involved. However, if used as a secondary unit this insulating glass can be positioned to provide the necessary gap, in which case further benefits are provided by the additional trapped layer of this multiple glazing set-up.

Where the gap width permits, you can achieve additional sound insulation by using acoustic tiles to line the soffit, reveal and sill of the window. Bear in mind that this insulation should not impede drainage arrangements which may have to be provided.

Condensation problems

A frequent problem with single-glazed windows is condensation, which can reach severe proportions if the atmosphere indoors is very humid. Over a period of time this ruins fixtures and fittings and may even cause wood framework to rot, replacement of which must be the first priority in any double-glazing project.

7 *Screw the top track into place, plugging screw holes if fixing to plaster and brick or concrete. Drive screws fully home*

8 *With the top and bottom tracks aligned with each other and set squarely in the window reveals, position and fix the side tracks*

Although double-glazing does not always eliminate condensation, it goes a long way towards curbing the problem—especially if fitted properly. Secondary-sash and coupled double-glazing present a slightly different problem in that it is difficult to prevent slight condensation on the inner surfaces, although you can take measures to reduce this effect.

Drilling a series of holes, at an angle downwards through the window frame, enables the air gap to 'breathe'—but no more—and so prevents a build up of too much moisture. Or, you can place *silica gel*, a moisture absorber, in the air gap on shallow trays made of up-ended channelling (fig. H). The silica gel can be removed and dried from time to time.

Insulating glass normally has a filling of inert gas sealed within the

9 *Use a wood offcut to tap and force edging strip fully home on the glass edges. Then slip the glazed frame into the window tracks*

unit. Condensation between the panes should not be a problem and there is usually some form of replacement guarantee to this effect, providing the seal remains intact.

Condensation is likely to occur if there is a poor seal between a secondary-sash and the supporting frame, a very real problem with some of the cheaper DIY double-glazing kits as adequate precautions cannot normally be taken. Always provide a generous and effective seal if you can, but make sure you instal your glazing on a cold, dry day as the moisture content of the air is at its lowest then. Even with removable double-glazing arrangements such as secondary-sash systems, it may be worth adding a 'bedding seal' of temporary or permanent nature, particularly for opening windows.

Curing draughts

Draughts are an unwanted feature of every house, and many originate from badly-fitting windows or doors. Most problems of this nature are easily put right (see pages 334-338) and must not be allowed to go unchecked when double-glazing is installed as many of the benefits may then be lost. Draught-proofing between an air gap and the inner glazing sheet is especially important if condensation is to be minimized or eliminated.

If a frame, window or door is in a particularly bad state of repair, it may be easier and cheaper in the long run to consider fitting a double-glazed replacement from the outset of any improvement scheme.

Where to glaze

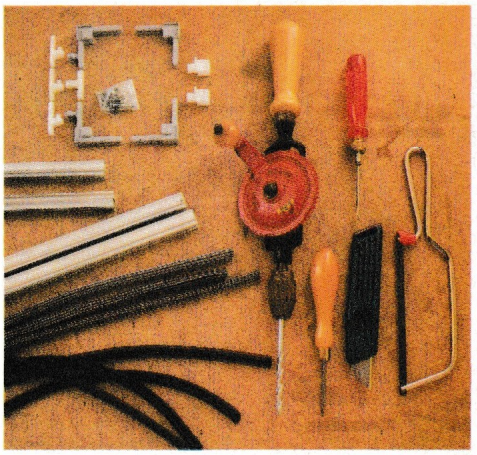
In most cases, double-glazing is an improvement job which is undertaken in stages as both weather and funds permit. Deciding quite where to start can be a problem, so base your choice on those rooms which you use a lot, those kept at the highest temperatures, and those which have the largest area of glazing.

The living room, sitting room and kitchen are obvious starting points and as these are likely to account for much of the groundfloor glazing, it is a good idea to choose one, matched system for all of them. Double-glazing upstairs is a luxury by comparison, but should be considered in your long-term plans. Temperatures here are usually kept lower, and even if heating is turned off at night, this hardly matters when you are snugly asleep.

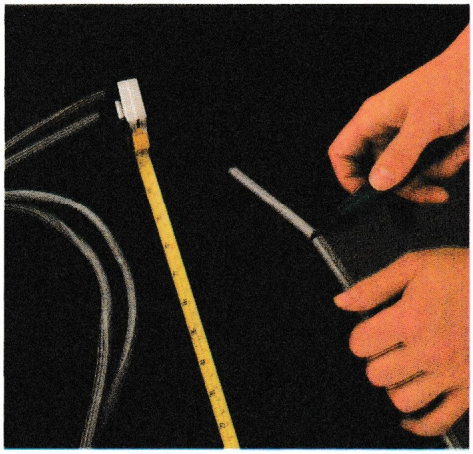
Take care to match the likely strength of a glazing kit with the area of glass that it has to support.

Fitting simple double-glazing

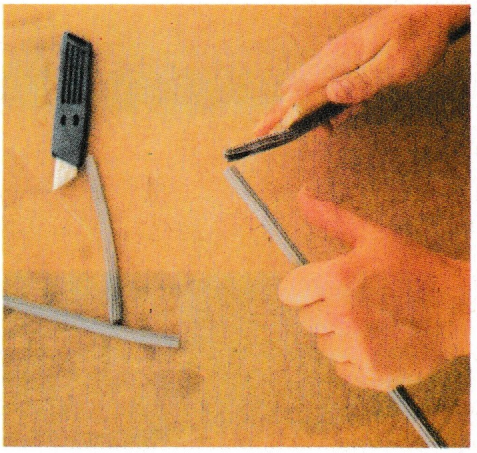
Most forms of double-glazing in kit form are easily installed by the home handyman. Of these, the various forms manufactured from aluminium section tend to be more durable and better looking than their plastics counterparts which often cost as much. With all forms, particular care should be taken to ensure clean, square cuts as errors here can greatly mar the finished appearance. Take care to avoid scuffing aluminium which readily shows this ill-treatment. Buy height and width kits oversize.



10 *This Cosyframe kit consists of aluminium glazing frame, glazing strip and sealing strip, and corner components*



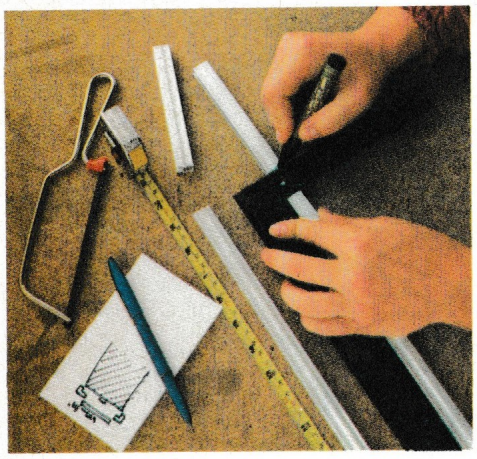
14 *Slip some glazing strip along the edges of the glass sheet, cutting to length only when any stretching has contracted*



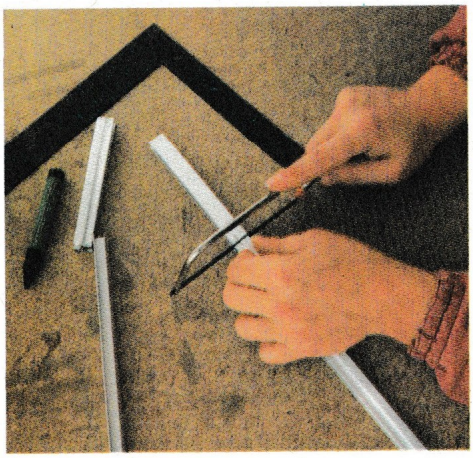
15 *Use a block of wood to push the glazing strip fully home making final trimmings of length as necessary*

19 *Lubricate with soap and water the sealing strip as this is inserted within the frame. A blunt screwdriver or knife is useful here*

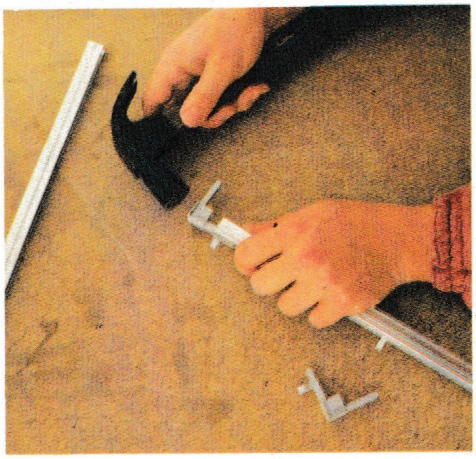
20 *Once the frame corner screws have been tightened, position the glazed frame in the window. Use wood offcuts to position the frame*



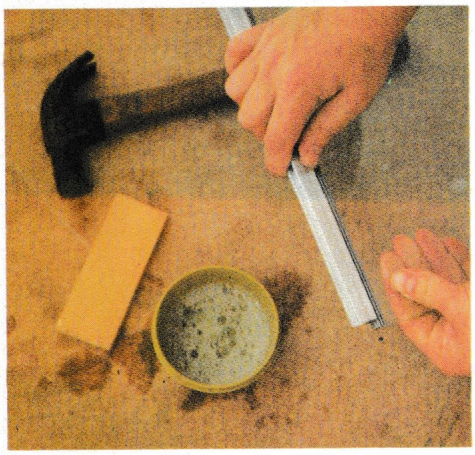
11 *Measure off the required height and width of frame required, carefully matching the opposite sides to ensure squareness*



12 *Use a fine-toothed hacksaw for making a clean, square cut. Remove any burrs with a file as these will impede assembly*

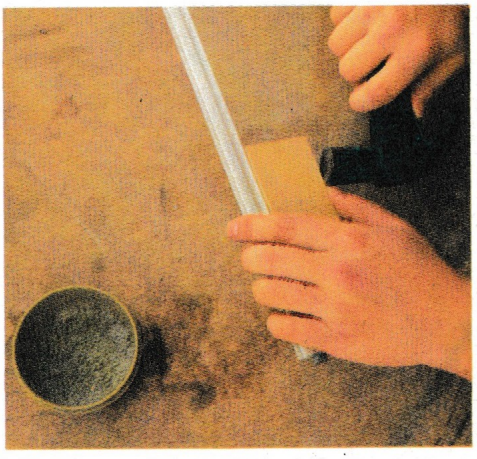


13 *Tap home the corner pieces —with this kit, self-tapping screws are located but not tightened at this stage*



16 *Lubricate the glazing strip with soap and water and then slip into position the first of the four parts of the aluminium frame*

17 *Protect the aluminium with an offcut of wood when tapping the frame fully home. The frame must be tight fitting for safety*



18 *Use a wood offcut as shown to remove an incorrectly positioned frame. Lubricate the glazing seal before repeating*

21 *Use a bradawl to mark and drill pilot holes for fixing the frame hinges. On high windows provide additional hinges*

22 *When the hinges have been screwed into position, check that the frame opens and closes properly along its supporting length*

23 *Position the turn-catches near to the top and bottom of the opening side of the frame. These should be tight fitting*

Choosing wall coverings

Syndication International Limited

Above: *Natural brickwork makes an ideal feature wall and adds interest and texture to a room. Imitation bricks can give an equally effective finish and are less expensive and easy to work with*

Paper and paint are no longer the only options for wallcoverings. A whole range of fabrics, murals and textured finishes can add interest and glamour to your walls

Decorating your home faces you with an almost limitless array of possibilities for wallcoverings, not only of colour and pattern but of texture as well. So, weigh up all the practical and decorative considerations before making a choice. Remember each room has its priorities. The bathroom and kitchen for instance need steam-proof, washable surfaces while the living room can be purely decorative.

Paint and wallpaper are cheap and convenient, but for a specific purpose or a special effect, a whole host of other products are available. Among these are vinyl wallcoverings, textured papers, hessians and other fabrics, foils, and cork and ceramic tiles.

Modern style

Living rooms tend to be redecorated more frequently than other rooms, so a fresh coat of paint is often both the quickest and cheapest solution. A modern style can be achieved by using bright gloss paint on one or two walls, and contrasting it with another strong colour on the paintwork or in the carpet or other floorcovering.

If your walls are irregular, gloss paint will show this up, so use a wallpaper with a bold geometric design, contrasting with a bright, plain carpet. Complete the effect with modern looking foam-filled furniture and some chrome spotlights. A selection of modern prints or posters and hanging or potted plants can be used to break up large expanses of plain wall.

Alternatively, if you are using carpet tiles, continue them up the wall to make an attractive and comfortable area for floor cushions. The colour contrast will make this a focal point of the room.

The modern look is ideal in functional rooms such as the kitchen and bathroom. These areas are liable to condensation and need durable, washable wallcoverings. Style is combined with practicality by using ceramic or stainless steel tiles behind the sink and cooker in the kitchen, and round the washbasin, bath and/or shower in the bathroom.

Elizabeth Whiting

Above: *Cork tiles make an excellent wallcovering for the bathroom. Remember, however, that they must be sealed against condensation. And if you want to continue them around the bath or washbasin choose the wipe-clean plastic-coated type*

Right: *A feeling of harmony and serenity is easily achieved by teaming a textured fabric wallcovering with a similarly coloured shag pile carpet. Neutral tones can be offset by adding a plant or a colourful rug or decorative wall hanging*

These rooms tend to be small, and usually benefit from an open, airy look. Light or cool colours give an illusion of space. Gloss or silk finish oil-based paints are durable and washable, and can be used on very smooth walls. Otherwise use a vinyl wallcovering in a bold geometric pattern which picks out the predominant colours of the paintwork or various kitchen fittings.

Dark-coloured vinyl floor tiles are popular in the kitchen and if you have any left over, use them on the wall over the work surfaces. The wall must be sound though, as these tiles are rather heavy and could very easily come away from the wall if they are applied over loose plaster.

Bright plastic laminates or mirror tiles give the bathroom an attractive, ultra-modern look, especially when used on the anti-splash areas. Reflective surfaces make the most of any light available and providing the room is not prone to heavy condensation, a stunning effect can be achieved with foil-covered or vinyl paper.

Natural styles

If the kitchen or bathroom wall is damaged or uneven, it might be best to aim for a homely, natural style, which makes use of sealed tongue and groove panelling. For example, combining light pine panelling with cork floor-tiles gives the bathroom a definite Scandinavian flavour—as well as a good measure of insulation.

The same kind of effect can be created in the living room by teaming panelling and cork tiles with modern, angular wooden furniture and natural matting on the floor.

Alternatively, you can hang paper-backed hessian on the walls—keeping to the natural colours, as the brighter ones tend to fade in sunlight.

Another, cheaper, possibility is a textured wallpaper such as woodchip which can also be repainted. For a slightly more luxurious accent use a

Elizabeth Whiting

Michael Boys/Susan Griggs

paper-backed silk or grass cloth on a single wall, a chimney breast or in an otherwise unadorned alcove.

Period looks

A living room in an old house can be transformed by stripping the plaster from around a fireplace and chimney breast to expose the bare brick. A feature can then be made of the uneven walls by whitewashing them.

This 'country farmhouse' look is very appealing, though it requires a little extra effort. It goes well with shaggy or patterned rugs on bare floorboards, dark wood furniture and copper or brass ornaments on the walls. A flowery, small-patterned wallpaper in subdued colours makes the most of a small living room. It can be combined with Victorian-style furniture and accessories such as brass wall lamps and old sepia photographs to create an authentic, Victorian look.

Cosy rooms

Adult bedrooms do not usually suffer heavy wear and tear so you can pay more attention to creating an atmosphere with your wallcoverings. Use a large-patterned, flowery wallpaper with a thick, plain carpet, bearing in mind that green is considered to be the most relaxing colour.

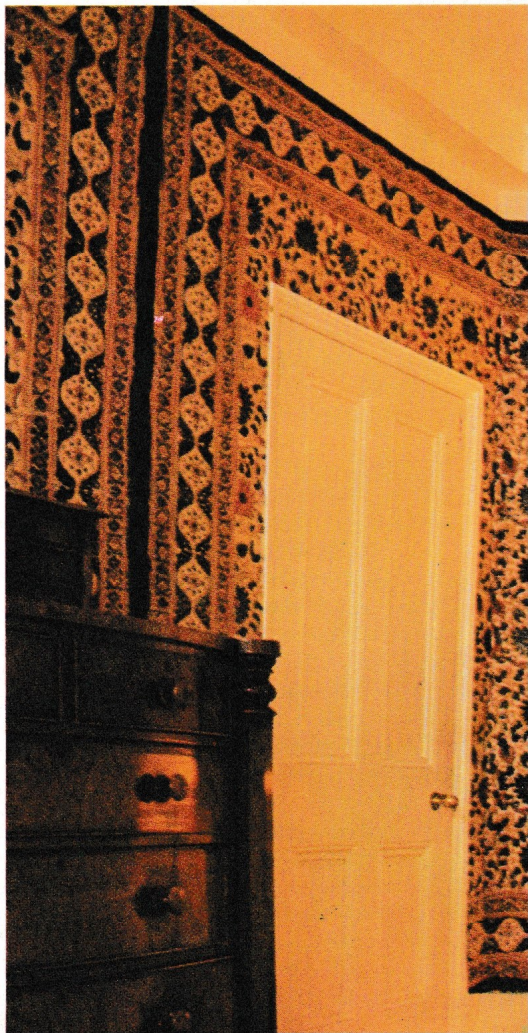
Above: *Rough plaster gives an interesting textured finish to a wall and with a coat of white paint adds a definite country flavour.* **Top right:** *Rough plaster also looks good when indented with a pattern.* **Bottom right:** *Try hanging full-sized rugs over the entire walls for a most unusual and luxurious effect*

Alternatively, you could splash out on a luxurious fabric wallcovering such as paper-backed silk, combined with fluffy rugs or a patterned carpet. Using cork wall-tiles with the fabric will improve soundproofing.

A durable, washable paint finish is the wisest choice for children's bedrooms. Most children prefer bright colours on the walls, but choose a dark, large-patterned carpet with a matching colour on the ceiling to make the room as cosy as possible.

Cork wall-tiles are again a useful alternative and can be used on a small area as a pinboard for drawings and posters. (This is also a good idea for a memory board in the kitchen or study.) Wipe-clean plastic laminates are the only solution for younger children who cannot resist the temptation to crayon on the walls!

Fabrics are very effective in a small room such as a study, since they



Jessica Strang

provide some measure of heat and sound insulation. A complete covering of unbacked felt, stretched over battens, is a relatively inexpensive way to create a rich and cosy atmosphere.

Thick, patterned carpet and comfortable furniture go well with this style of wallcovering and subdued sidelighting will make the most of the texture of the felt.

Creating visual effects

With colour, texture and pattern you can greatly alter the look and feel of your home. You can give the illusion of changing shape and space by making good use of tone and the warm and cool characteristics of colour. A wall painted in a dark or a warm colour tends to advance into the room, while light or cool colours have the opposite effect. If the ceiling is too high, paint it in a dark tone, if it is too low, use a much lighter colour than the rest of the room.

Narrow halls or passageways seem much wider if painted or papered in light colours, and if the wall at the end is darker and warmer it appears to shorten the length. Dark coloured ceiling and floor with light walls will emphasize the width of the hall and lower the height.

Elizabeth Whiting

Home designer

A dark tone makes a large room seem much cosier and warmer, while a light and airy effect can be created in a small room by using white or cool colours. Make a focal point of attractive features such as fireplaces or bay windows by using a contrasting colour to that on the other walls.

Choosing colours and patterns to go well together can be a daunting prospect. Try not to have too strong a contrast between rooms which open out into each other—in small houses variations of the same wall colours used throughout can look very effective. Once you have decided on the colour scheme for your room, collect together small samples of wallpaper, paint and all the other relevant furnishings such as carpet, curtains and any upholstery fabric, and stick them all together on a piece of card. This gives an idea of the scheme as a whole, and you can make changes at this stage, before it is too late!

Jessica Strang

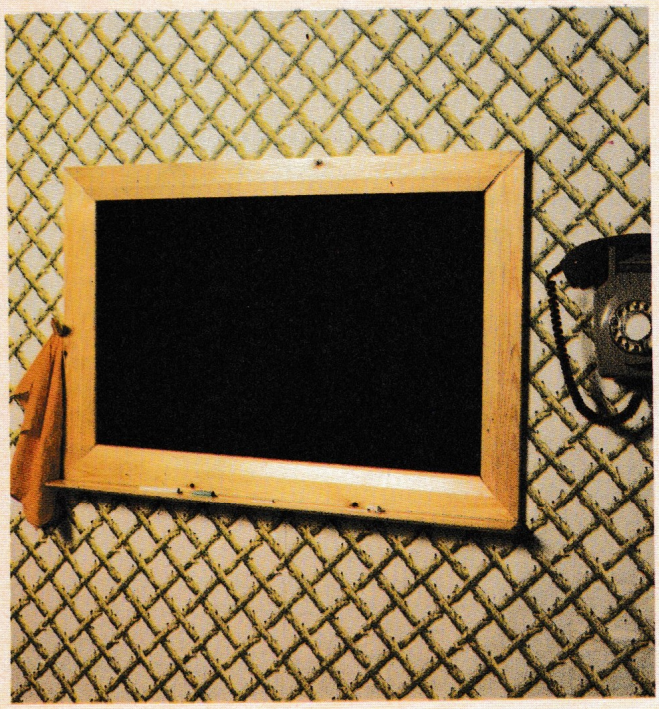
Right: *Really stunning effects can be achieved by painting your own mural on a plain white wall*

The Picture Library

Below: *Striped wallpaper can be hung horizontally to continue the line of fitted furniture*

Texture and pattern are just as important as colour and tone. Textured wallcoverings create an interesting effect and have the advantage that they hide any imperfections in the wall surface. However, textures must be appropriately illuminated or they may be lost altogether. Side lighting is best as it casts a shadow on the wall and emphasizes the texture.

Pattern creates a sense of order and purpose and has different affects on a room. A small repeat pattern will create an illusion of space by making the walls recede, while a large pattern will make a room seem smaller and cosier. Carefully arranged patterns can help to disguise uneven walls, or unattractive features such as oddly shaped alcoves. Large, geometric designs usually create a feeling of depth and vertical stripes an illusion of height, while horizontal stripes make a room seem wider.



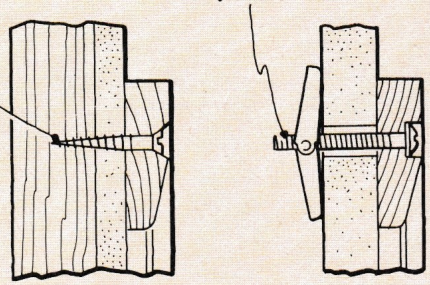
Ray Duns

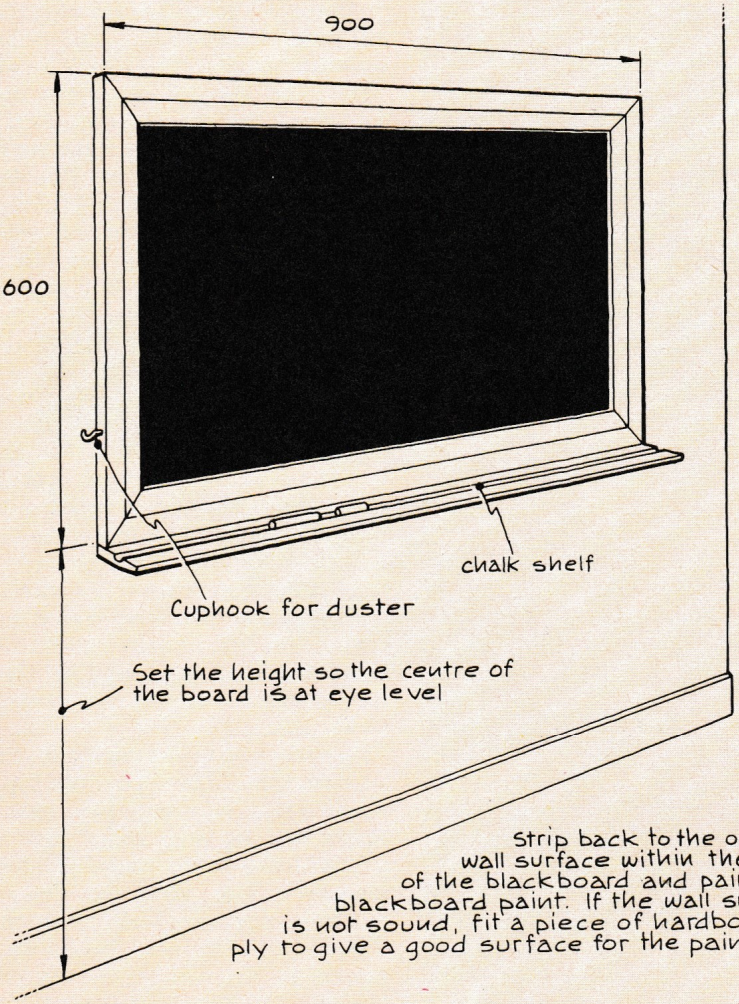
Make a memo board

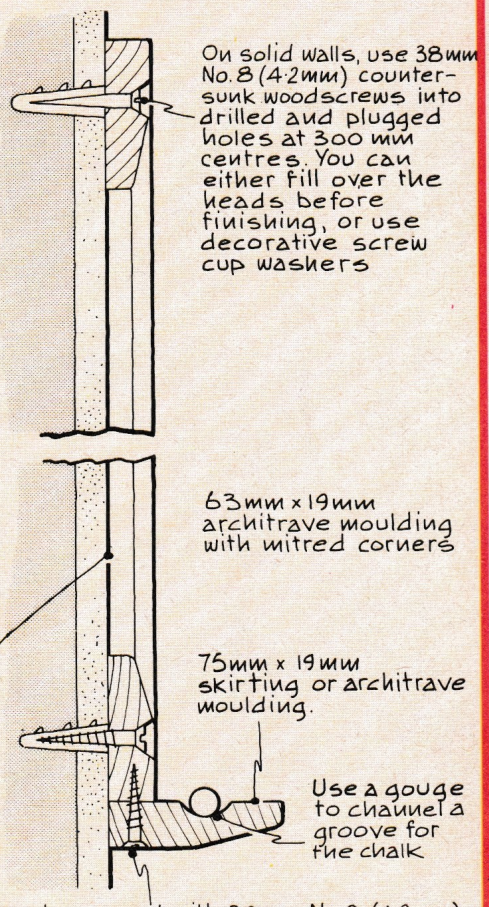
A memo board has many uses around the home—whether for jotting down phone numbers and shopping lists or just somewhere for the children to scribble. This blackboard is an interesting wall feature with a very practical application. All you need to make it is a few sections of wooden moulding and special blackboard paint which you can buy from most paint stores. Almost any moulding is suitable—just mitre the corners and screw them in place. Make the chalk rail from another section of moulding with a groove cut in it. Strip off any wallpaper within the blackboard area and either paint direct on the wall or fit a piece of board.

On cavity walls you can screw directly into the studs with 38mm No.8 (4·2 mm) countersunk woodscrews

Alternatively, use cavity fixing bolts at 300 mm centres






On solid walls, use 38mm No.8 (4·2mm) countersunk woodscrews into drilled and plugged holes at 300 mm centres. You can either fill over the heads before finishing, or use decorative screw cup washers
63mm x 19mm architrave moulding with mitred corners
75mm x 19mm skirting or architrave moulding.
Use a gouge to channel a groove for the chalk
Glued and screwed with 38mm No.8 (4·2mm) countersunk woodscrews at 300mm centres and PVA woodworking adhesive

Strip back to the original wall surface within the area of the blackboard and paint with blackboard paint. If the wall surface is not sound, fit a piece of hardboard or ply to give a good surface for the paint

Advertising Arts

Project

A staircase storage system

Add interest to your hall and stairway by replacing the old handrail with a shelving system in an attractive geometric design with plenty of space for ornaments, plants, books and photographs

J. P. Studios

In many houses, the staircase wastes a lot of space, and the hall is usually too narrow to fit in any furniture—even a shelf unit. This design solves the problem by using the stairs themselves as the foundation for a shelving unit which is decorative in itself yet provides useful storage space.

Most stairs are suitable for conversion. The design shown overleaf is for the cut string type of staircase, where the board which runs up the outside is notched to take the treads and risers. This is a very common type of construction, but if your stairs have a closed string—a solid board which encloses the end of the tread—it is easy to adapt the design. Build the shelving in the same way, but set it inside the string. You can add an extra board above the original string and cut its edge into a notched pattern to give the same geometric effect.

Prepare the stairs by removing the original handrail and baluster spindles. In some houses, a solid board takes the place of separate spindles. Cut back the old nosings on the edge of the treads to get a flush surface on which to fit the shelves. The design is for 150mm deep shelves—if your stairs are especially narrow or especially wide, vary the amount of nosing you cut back to accommodate your chosen shelf depth.

The shelving is based on a repeated unit which has a double cross shape. These are all the same, but it is very important to take the exact measurements of your stairs when marking out the dimensions. Note that the two cross-pieces are offset relative to each other in order to form complete boxes with the neighbouring units.

Make up one unit for each stair. You can use either veneered or plain chipboard, but use the exact thickness when marking out. Drill all the holes for joining the units to each other and to the stairs.

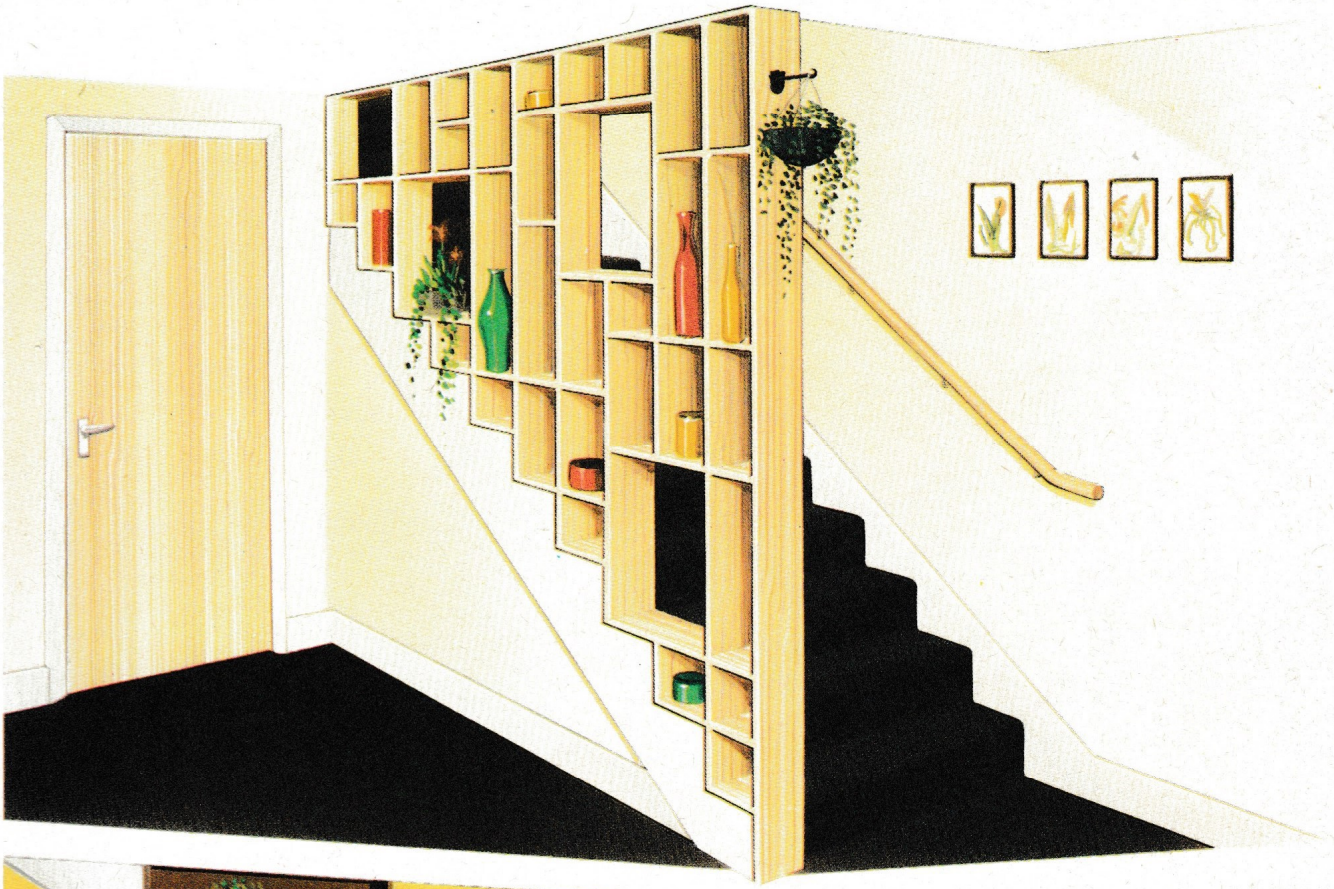
Assembly is much easier if you have an assistant. Work from the top of the stairs down, screwing the units to the stairs and to each other. The design overleaf shows two types of chipboard fastener, but you can use other methods of joining such as block joints if desired. Add extra shelves and infill panels at top and bottom to preserve the design. Panel in the back of the unit and fit a handrail to the opposite wall for safety.

Alternative ideas

You can easily adapt the basic idea for stair shelving by making different shaped units to fit on to each stair. The illustrations below show just two possibilities, but you can make up your own to fit almost any staircase. The important thing is measure and mark out accurately.

The design at the top is very similar to that shown in the working drawings except each unit is extended to the ceiling—careful measurement is very important here—and the internal divisions are arranged in a random pattern. Some, or all, of the units may be left open at the back. However, do not display valuable ornaments on such shelves or they may be knocked off as you go up the stairs.

The design below extends the shelving out horizontally providing long bookshelves. This is possibly the easiest shelving of all to make, but bring shelves out sufficiently so the unit forms a safe barrier down the open side of the stairs.



Advertising Arts

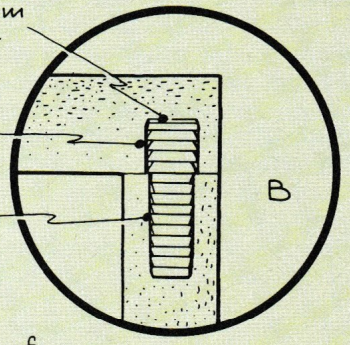
J. P. Studios

Workplan

Make top and bottom joints with chipboard dowel rivets spaced at 50 mm in from the edges of the panel. These simply press together

10 mm hole, 13 mm deep

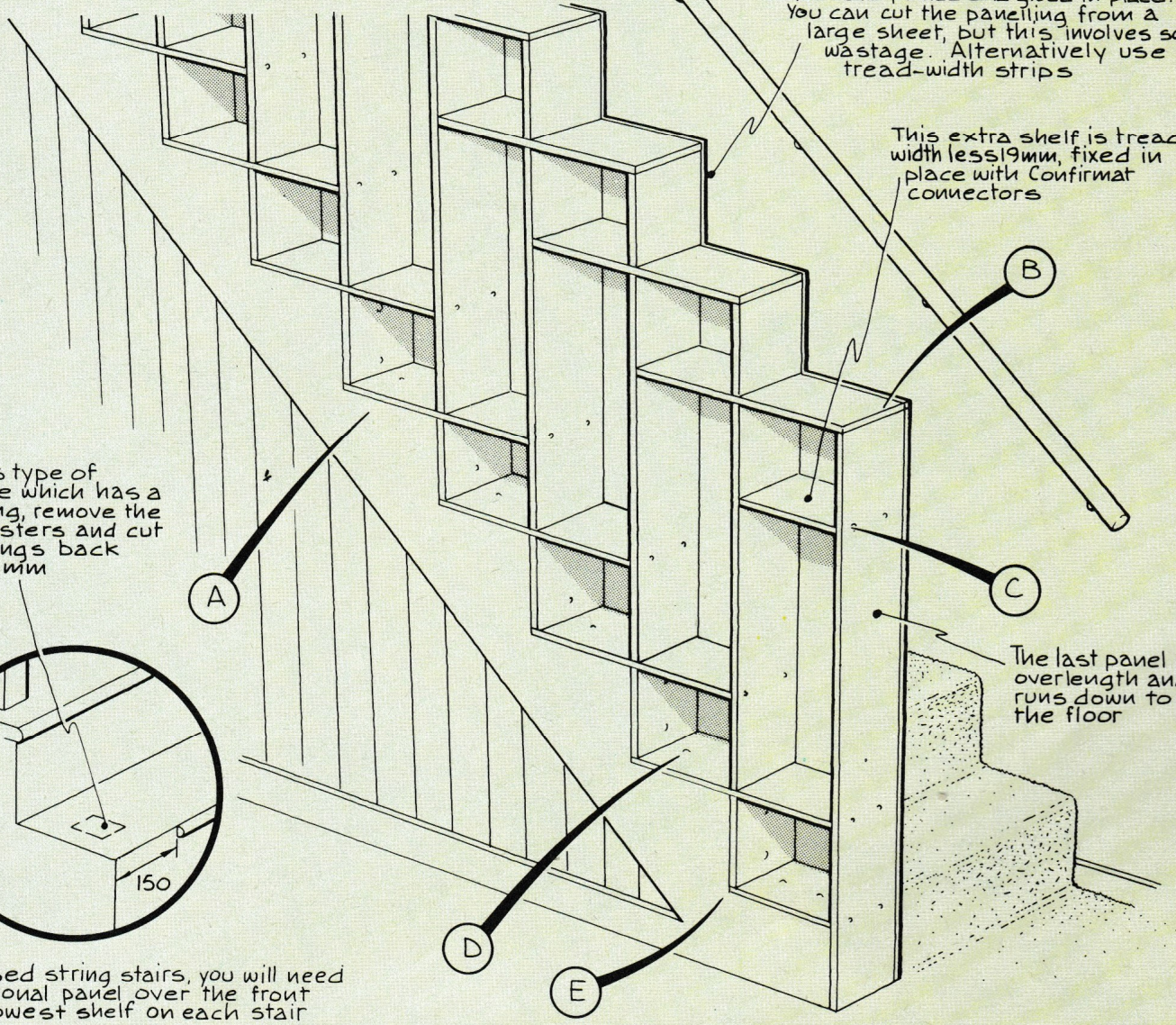
8mm hole, 25mm deep



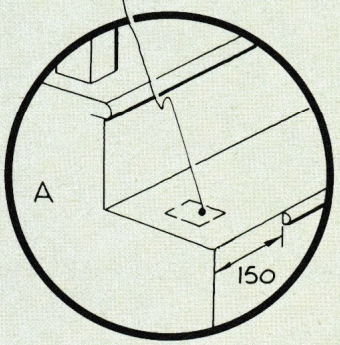
In the interests of safety, you must fix a handrail to the wall opposite the shelving

Panel the back with 6mm plywood or hardboard pinned and glued in place. You can cut the panelling from a large sheet, but this involves some wastage. Alternatively use tread-width strips

This extra shelf is tread-width less 19mm, fixed in place with Confirmat connectors



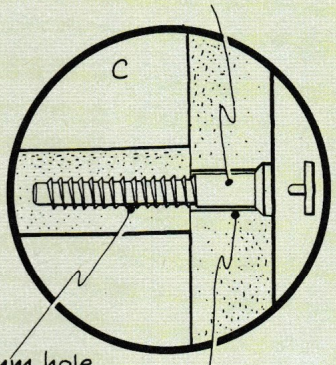
With this type of staircase which has a cut string, remove the old balusters and cut the nosings back for 150 mm



The last panel is overlength and runs down to the floor

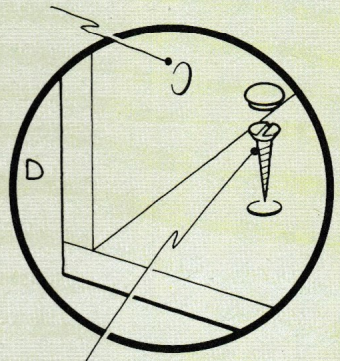
With closed string stairs, you will need an additional panel over the front of the lowest shelf on each stair

Make the joints between the shelving and the vertical supports with Confirmat connectors. Cover the heads with push on screw caps



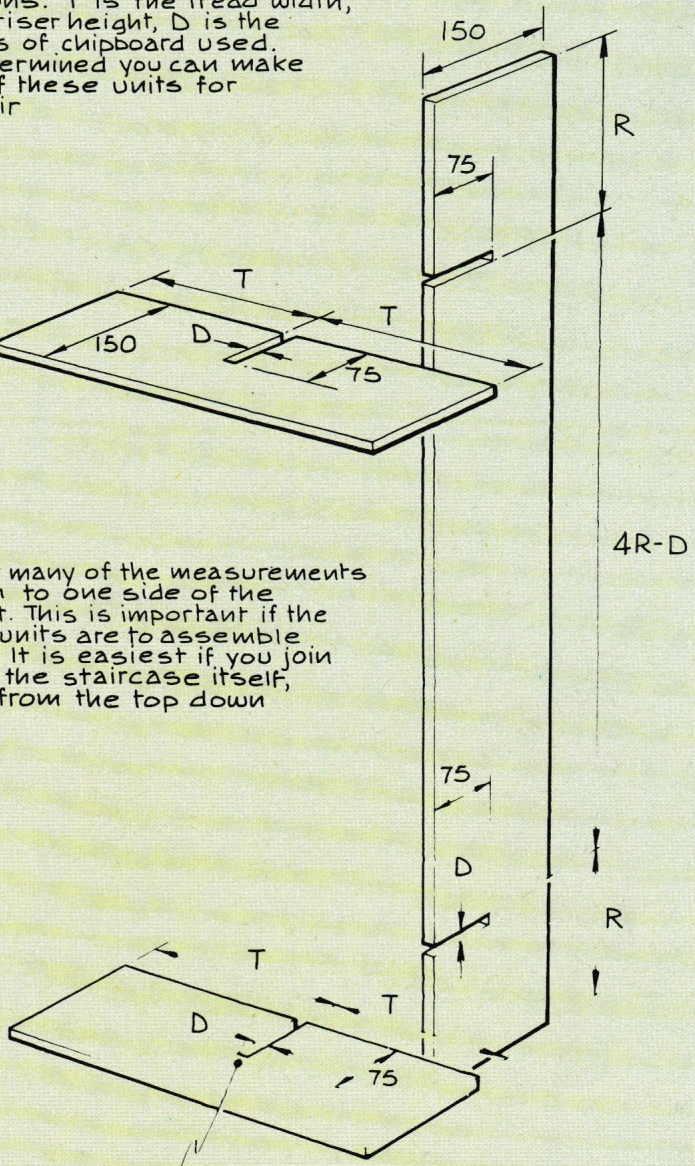
The basic shape from which the shelving is made is the double cross shown here. You will need to measure your stairs to calculate the exact dimensions. T is the tread width, R is the riser height, D is the thickness of chipboard used. Once determined you can make up one of these units for each stair

The shelving is screwed in place to the original stair treads and risers



Use 38mm No. 8 (4·2mm) countersunk woodscrews at 50mm from the edges of the panels and cover the heads with push-on screw caps

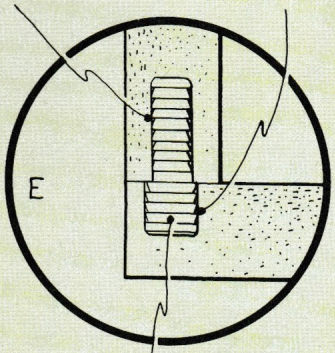
Note that many of the measurements are taken to one side of the joint slot. This is important if the finished units are to assemble properly. It is easiest if you join them on the staircase itself, working from the top down



Cut these slots with a saw then chisel out the waste. Assemble with PVA woodworking adhesive

8mm hole
25mm deep

10mm hole
13mm deep



Bottom joints- use chipboard dowel rivets

The main material is 150mm chipboard. If your stairs are very narrow or very wide, you can decrease or increase this. Use either a veneered chipboard with a lacquered finish or 19mm plain chipboard and paint it

Renewing your guttering

James Johnson

Above: *When you come to fix the downpipe of a PVC gutter system, secure a plumbline with a nail or drawing pin to the fascia board immediately behind the outlet. This gives you a guideline for positioning the pipe clips down the wall*

● PVC rainwater systems ● Planning a new PVC guttering assembly ● Dismantling iron gutters and downpipes ● Assembling PVC gutters ● How to cut guttering and downpipes ● Erecting a new downpipe

However well they are maintained, old cast iron gutters and downpipes eventually begin to show signs of decay. And if the decay in the system is at all far advanced, it is well worth replacing it with PVC guttering.

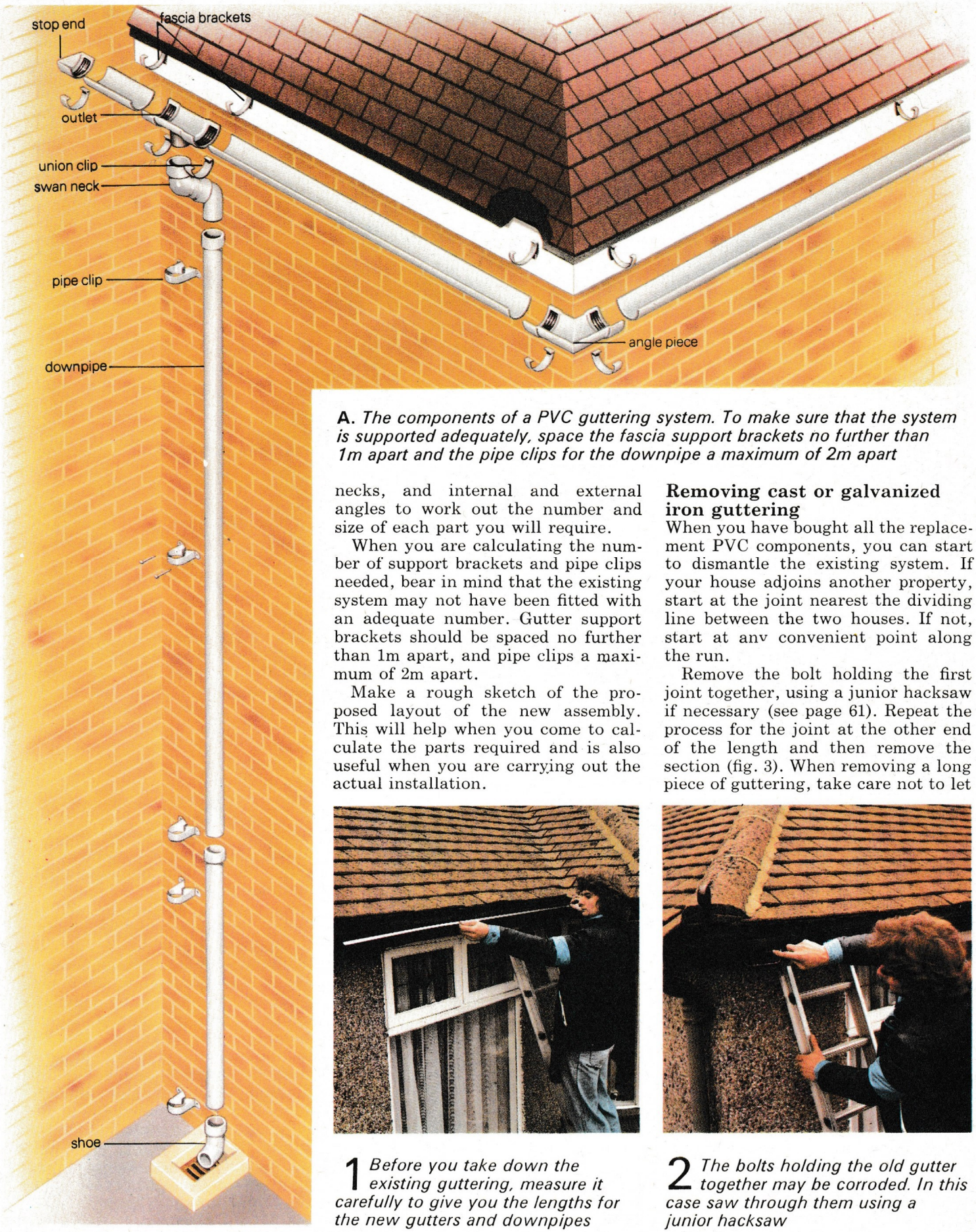
PVC rainwater systems have several advantages over those made of cast iron. They do not corrode, nor do they require painting for protection — though they can be painted to suit colour schemes. Because PVC guttering is light, sections of it are easier to handle than their metal counterparts—an important consideration when you are working on a ladder. Being cheaper than cast iron, PVC has virtually replaced it in home building and renovation.

Planning the new assembly

Sections of PVC guttering can be joined together in a variety of different ways (see pages 61-63). But with all types of half-round guttering, you fix the system to the exterior of the house in more or less the same way. The gutter sections are clipped into brackets screwed to the fascia boards beneath the eaves of the roof. The downpipes have wrap-around pipe clips which are screwed directly to the walls. Ogee-section systems require no brackets for the gutters because they are screwed directly to the fascias (see page 60).

You can use sections of guttering in full lengths where there is enough space for fixing, or cut it to any length required using a fine-toothed hacksaw.

Before you take down the existing guttering, measure it carefully to give you the lengths for the new gutters and pipes (fig. 1). Count and measure, the stop-ends, outlets, shoes, swan



Venner Artists

A. *The components of a PVC guttering system. To make sure that the system is supported adequately, space the fascia support brackets no further than 1m apart and the pipe clips for the downpipe a maximum of 2m apart*

necks, and internal and external angles to work out the number and size of each part you will require.

When you are calculating the number of support brackets and pipe clips needed, bear in mind that the existing system may not have been fitted with an adequate number. Gutter support brackets should be spaced no further than 1m apart, and pipe clips a maximum of 2m apart.

Make a rough sketch of the proposed layout of the new assembly. This will help when you come to calculate the parts required and is also useful when you are carrying out the actual installation.

Removing cast or galvanized iron guttering

When you have bought all the replacement PVC components, you can start to dismantle the existing system. If your house adjoins another property, start at the joint nearest the dividing line between the two houses. If not, start at anv convenient point along the run.

Remove the bolt holding the first joint together, using a junior hacksaw if necessary (see page 61). Repeat the process for the joint at the other end of the length and then remove the section (fig. 3). When removing a long piece of guttering, take care not to let

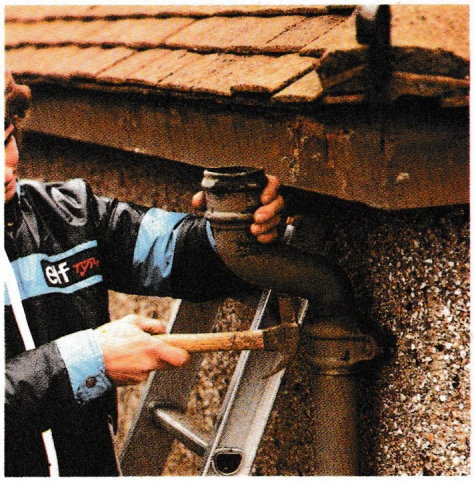
1 *Before you take down the existing guttering, measure it carefully to give you the lengths for the new gutters and downpipes*

James Johnson

2 *The bolts holding the old gutter together may be corroded. In this case saw through them using a junior hacksaw*

3 *Lift the freed guttering out of its brackets and take it to the ground making sure that the weight does not catch you off balance*

4 *If the fixing screws of a fascia bracket are too corroded to unscrew, use a claw hammer to lever it away from the board*



5 *You should be able to remove the swan neck of a downpipe by hand but if not, knock it out gently with a hammer*

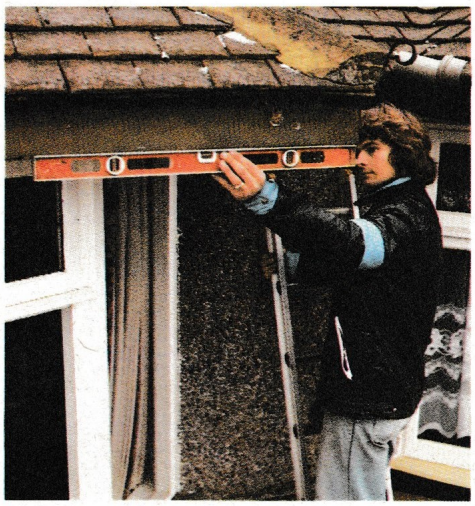
its weight catch you off balance while you are on the ladder.

When you have removed a section and taken it to the ground, unscrew the supporting brackets from the fascia board. If the fixing screws of a bracket are too corroded to unscrew, use a claw hammer to lever them away (fig. 4). Do not knock upwards with the hammer when you are trying to dislodge a stubborn support or you may crack the tiles immediately above.

If you are dealing with Ogee-section guttering, either unscrew the fixing screws holding the lengths to the fascia board, or, if they are corroded, cut through them with a junior hacksaw. If these methods fail, use a bolster to lever between the gutter and the fascia boards.

Some cast iron systems are supported by brackets which are screwed to the roof rafters (see page 61). To gain access to the fixing screws on such a bracket, you have to remove the slate or tile immediately above it with a slate ripper. In this case, it may be easier to saw through the brackets and fit the new system directly to the fascia.

When you come to dismantle a downpipe, start by removing the outlet section at the top and if fitted, the swan neck. You should be able to dislodge these by hand by pulling upwards but if not, use a hammer to knock them from place (fig. 5). Remove the downpipe brackets by levering out the pipe nails with a claw hammer. Where necessary, hold an offcut of timber against the wall so that you get more leverage on the hammer (see page 64).



6 *Before you start to assemble the new guttering, use a spirit level to check that all the fascia boards are horizontal*

7 *To assemble the system, begin by screwing the supporting fascia brackets firmly into place along the fascia board*

Assembling the new system

Before you erect the new guttering, check that the fascia boards are horizontal and in good condition (fig. 6). It is unlikely that the boards will need adjustment, but it is well worth taking the opportunity to repaint them at this stage.

Scrape off any paint that has formed in ridges around the old guttering, then wash down the fascia and when dry apply a coat of primer. When the primer has dried, key the surface by rubbing it over with a medium grade of glasspaper. Paint the boards with two undercoats and one top coat then leave them to dry out before erecting the new guttering.

Boards in particularly bad condition may have to be replaced altogether, in which case you should call in expert advice.

To assemble the system, begin by fixing the supporting brackets. Place one bracket at the top end of a run to correspond with the old one, and one at the bottom end in a similar position (fig. 7). Attach a length of string between the two brackets and make sure that it is taut. Check the string with a spirit level to make sure that it slopes towards the outlet position—the correct slope, or fall, for a run is 25mm in every 3m—then use it as guide for positioning the intervening brackets. It may be that you can fix all the new brackets in the positions of the old ones. But check constantly that both the spacings and the fall are correct.

When you come to an internal or external angle at the corners, hold the appropriate part in place and mark the bracket positions from the runnels indented in the PVC on either side of the piece.

When you have marked all the bracket positions, drill holes for the mounting screws into the fascia boards and screw each bracket home. With all the brackets in place, you can start to position the guttering lengths within them.

Cutting and fitting

When you are cutting new gutter lengths, it is important to make sure that the cut ends are square. You can do this by fitting a spare section over the piece to be cut and using it as a template to draw the cutting line (fig. 9). Once you have sawn through a section, smooth the cut edges with a medium file.

Start fitting the guttering at the top end of a run. Clip the lengths into position in the brackets and join sections together, following the manufacturer's instructions.

Because PVC tends to expand and contract, even with quite small temperature variations, some systems make allowance for movement at each joint. In this case, the union clips holding sections together have marks on either side with which the ends of adjoining gutter sections are aligned. The resulting gap between sections allows for maximum expansion and contraction without weakening the new seal.

If you are faced with the problem of connecting the new guttering to a neighbour's iron system, special adaptor fittings are available for joining the two materials. Dry out and clean the end of the iron section, using a wire brush to remove any traces of rust. Apply some sealing compound to the area (see pages 61-62) then press the adaptor into place (fig. 12). You can now join the PVC section, following the manufacturer's instructions.

Fitting a downpipe

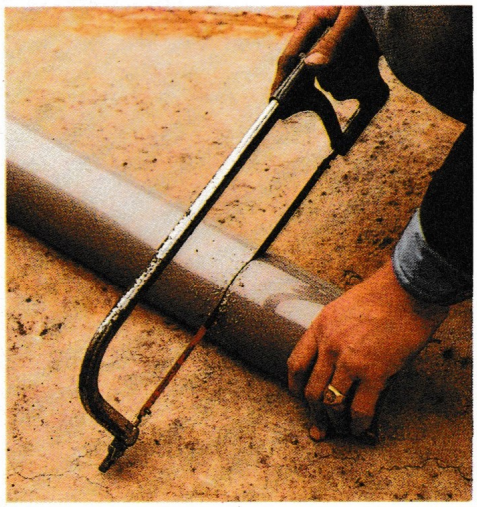
Unlike cast iron systems, the swan necks for PVC guttering are not manufactured in one piece. Instead they are made up of an offset socket, an offset spigot and an offcut of pipe (fig. A). The length of pipe determines the angle of the bend, thus giving you more flexibility in positioning the downpipe than you would have with cast iron or galvanized metal.

To erect the downpipe, fix a plumbline with a nail or drawing pin to the fascia board behind the outlet. You can then use the string as a guideline down which to mark the pipe clip screw positions.

Place one of the clips around the bottom of the offset spigot, hold it temporarily in place on the wall, and mark its screw holes. Next, measure and cut the length of pipe to fit between the socket and spigot. To

8 *When cutting a new piece of gutter to length, make a pencil mark on the underside of the section at the correct distance from the end*

9 *Fit a spare gutter section over the piece to be cut. Align its edge with the pencil mark and draw the cutting line*



10 *Hold the length of guttering in place and cut through the line with a hacksaw. Smooth the cut edges with a medium file*

11 *To join PVC guttering to a cast-iron system, clean the end of the iron piece, then apply some sealing compound to the area*

12 *Fix the special adaptor fitting into the end of the iron gutter and clean off the underside with the point of a screwdriver*

James Johnson

make sure that the cut end of the pipe is square, mark the length to be cut then wrap a paper template around the pipe at the mark (fig. 13). Bore the holes for the pipe clip screws into the wall (fig. 14), plug the holes with wall plugs, then fit the swan neck in position (fig. 15).

Fit the downpipe down the wall, joining the sections according to the manufacturer's instructions, and fix a pipe clip at each joint to support the pipe. Finally, fit the shoe piece that lets into the drain or soakaway at the bottom of the pipe and attach the last clip (fig. 17).

Once the whole assembly has been fitted and joined, test the system by emptying a bucket of water into the gutter at the highest point of each run to check that there are no leaks.

13 *When cutting a piece of downpipe to length, wrap a paper template around the pipe to make sure the cut edges are square*

14 *Attach a plumbline to the fascia board behind the outlet and use it as a guide to mark and drill the pipe clip screw holes*

15 *Plug the drilled holes with wall plugs, place a pipe clip around the piece of pipe, then screw it into place on the wall*

16 *Working down the plumbline fix the downpipe sections to the wall. Fit a pipe clip over every joint of the pipe*

17 *Finally, fit the shoe piece that lets into the drain or soakaway at the bottom of the pipe and attach the last clip*

James Johnson

Make the most of rainwater

Rainwater is ideal for watering indoor or outdoor plants. Instead of letting it run to waste, you can divert some of it into a storage barrel ready for use.

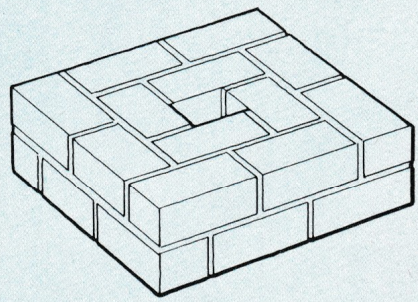
You can buy a purpose-built plastic barrel with a tap from garden stores, or use a metal oil drum and fit a tap.

The rainflow from a whole roof will fill a barrel very quickly, so use the flow from a garage, shed or outhouse. Build a brick plinth to support the barrel alongside the old soakaway. Shorten the original pipe and fit a swan neck bend to divert the flow into the barrel. Fit a clip at the point where you join in the new section.

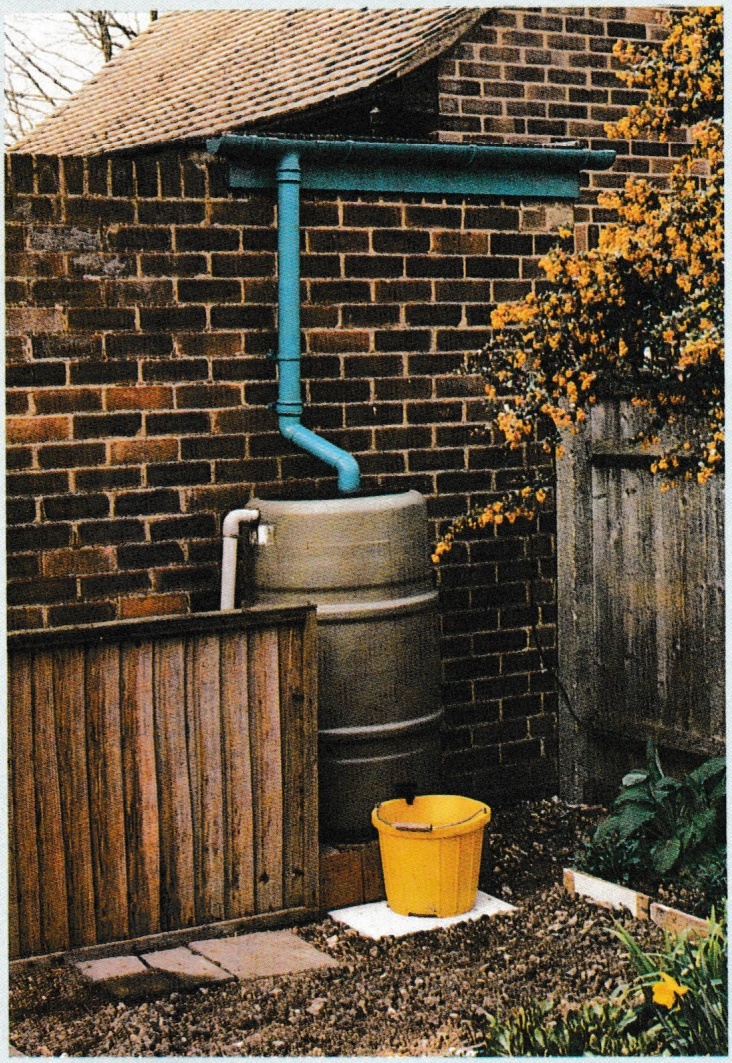
You must fit an overflow pipe to the barrel. This should be routed into the soakaway. If there is sufficient rainfall this arrangement should maintain a constant supply in the barrel, ready for use.

The plinth makes it easy to fit a bucket or watering can under the tap. To prevent the area from becoming muddy, you can lay a small concrete slab in front of the plinth, on which to rest the bucket or can.

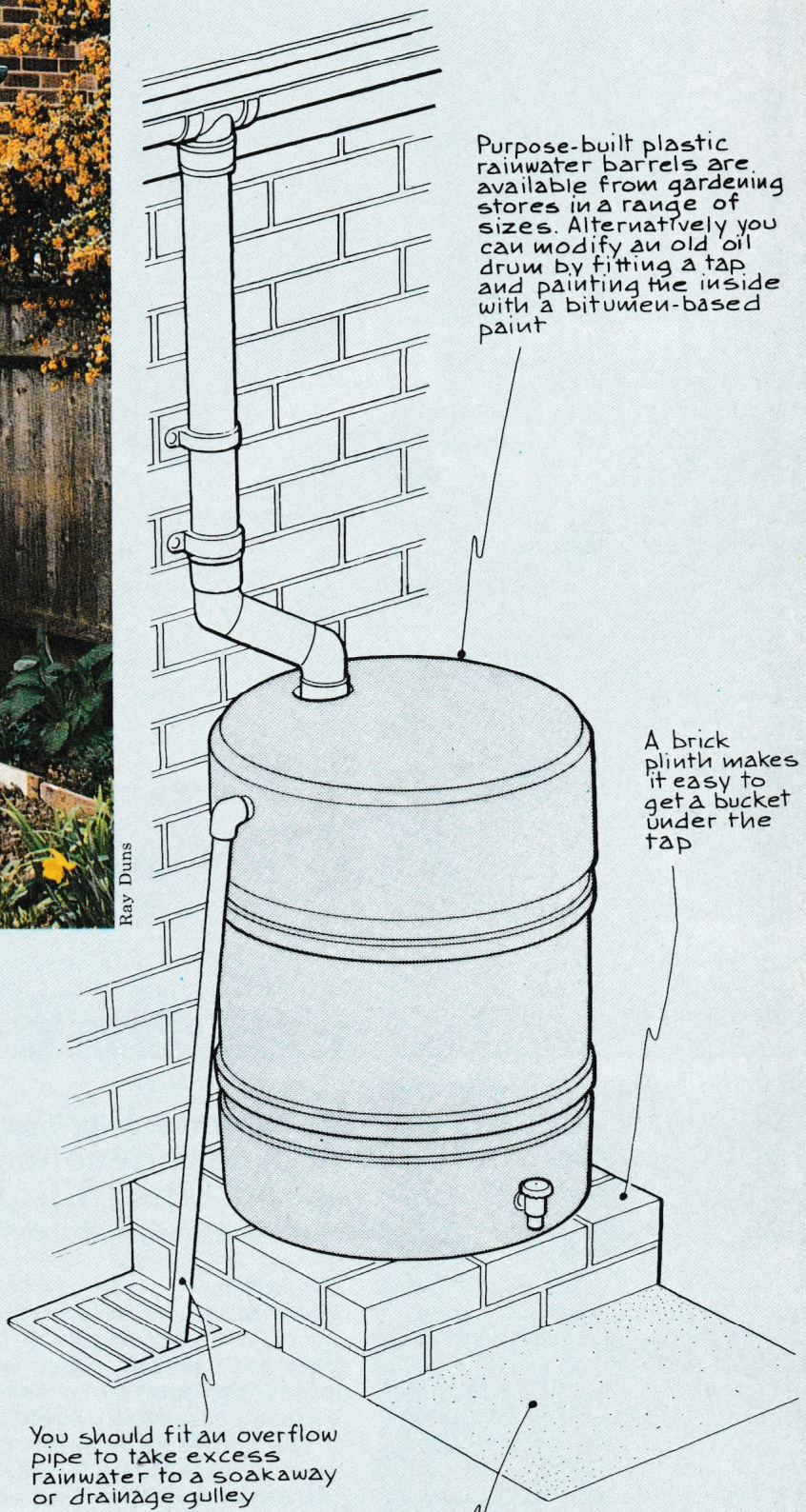
Stand the barrel on a plinth so you can fit a bucket under the tap. You can make a simple plinth like that shown by laying bricks on a concrete footing

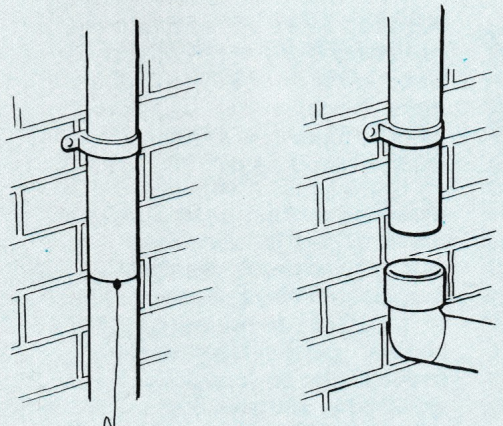


Alternatively, use concrete blocks or even heavy timber, but remember that when full, the barrel will be very heavy



Ray Duns


Purpose-built plastic rainwater barrels are available from gardening stores in a range of sizes. Alternatively you can modify an old oil drum by fitting a tap and painting the inside with a bitumen-based paint
A brick plinth makes it easy to get a bucket under the tap
You should fit an overflow pipe to take excess rainwater to a soakaway or drainage gulley
Lay a small concrete slab to prevent the area in front of the barrel becoming muddy



If you are fitting the barrel to an existing drainage system, shorten the stack as shown and fit a swan neck or angle bend to divert the flow

Advertising Arts

Repairing carpets

Ray Duns

Above: *There are various ways of replacing a worn patch of carpet depending on the type of the carpet. Here, a latex adhesive is being applied to the edges of a new piece of foam backed carpet*

You can make sure your carpets have a long life by careful and thorough maintenance. Repairing them before it is too late will always save you a lot of trouble and expense

A carpet usually covers such a wide area of a room that it is painfully obvious when any part of it becomes damaged, stained or worn. But this everyday, minor damage need not be the disaster you might at first imagine. Most of it can, with care and patience, be repaired to a highly professional standard. Repairing carpets is a fast dying art and there are very few professional craftsmen who will undertake such a job as re-tufting a carpet. So if you have good carpets, you are even more duty bound to repair them yourself—or buy new ones.

Re-tufting

Tufts clawed out by pets, burned out by cigarettes or torn out by carelessly-used knee kickers when laying are among the most common forms of surface damage to a carpet.

To make a repair, your first requirement is some matching pile yarn. If the carpet is still in production, you can get this through the retailer from the manufacturers, who will need to know the range name and pattern number—sometimes a small cutting of waste suffices to verify the colours. Most manufacturers are very helpful about supplying matching yarn and often do so free of charge.

If you cannot obtain the correct match, something fairly close is usually available in a knitting wool of a similar gauge. The only equipment needed for re-tufting is a medium-sized pair of very sharp scissors and a half-round needle with a diameter of about 50mm.

Start by isolating the damaged tufts and snip them off level with the backing, taking care not to cut the backing in the process.

Now thread the needle with about

450mm of the yarn and simply sew it from the surface, in and out of the weft backing. This forms a simple U-shaped tuft of the same proportions as the previous one, except that it should be cut off about 25mm above the surrounding unworn pile.

Continue in this way until the whole patch is filled in. With a patterned carpet, different coloured yarns should be used and the tufts correctly located in accordance with the design. Having sewn in all the tufts, smooth them out in the direction of the pile and snip them off level with the rest of the pile.

Complete repairs

If damage to a carpet extends below the level of the pile into the backing structure, a new piece of carpet has to be set in. For this you need a sharp handyman's trimming knife with a few heavy-duty blades, a thin, metal straightedge and a curved needle. The method of repair varies for each type of carpet.

Axminsters and Wiltons: Mark out the extremities of the damage with pins, pushing them right through the backing. With the carpet folded over, the pins enable you to locate the area of damage from the reverse side.

Use your handyman's knife to cut out the damaged portion in a square or rectangular shape, following the line of the weave. The cut must be deep enough to cut and separate the backing without damaging the overhanging pile, which will be needed later to cover the join.

Next place the damaged cut-out on the replacement piece, with the pattern matching, and mark the position with pins pushed right through. Turn it over and cut out the piece required for the repair, following the weave and cutting only just through the backing as before.

1 Cut a square section from a piece of spare carpet as a replacement piece making sure that the pile direction is the same

2 Place the section squarely over the damaged area and cut round the template piece with the knife blade angled inwards

3 When the damaged piece has been removed, apply a latex-based adhesive liberally along each of the edges of the replacement piece

4 Stick a piece of one-sided self-adhesive carpet tape under each side of the square and press the carpet down to make the tape stick

5 Position the replacement piece down at one end making sure that the pile runs in the right direction and push it into place at the seams

6 To get the foam rubber seams to stick firmly together push down into the join with the back of the blade of a handyman's knife

Before securing the new piece of carpet in position, seal all raw edges with a proprietary latex compound and allow this to dry. Then place the new piece of carpet into the prepared cut-out, making sure it is the right way round, with the pattern matching and pile direction corresponding.

The edges must be sewn firmly together on the backing section with an over and over stitch using the curved needle and a stout thread. Most carpet suppliers sell carpet thread specially for this purpose.

Finally, apply a 35mm wide coat of latex compound to the back of the seam and cover this with a fabric tape. Apply gentle pressure on the area and allow it to dry.

Tufted carpets with non - foam backing: The repair method for these is similar to that for Axminsters and Wiltons except that there is no weave structure to follow when cutting out the damaged and replacement sections. Some tufted carpets appear to have a weave structure but this is only a layer of woven material which is stuck on the back and should be disregarded.

The best way to repair this type of carpet is to cut a generous amount of replacement piece into a square or rectangle and place it directly over the worn section. This becomes a template around which you cut into the carpet with the handyman's knife angled inwards: Follow figs 7-13.

Foam-backed carpets: These are simply tufted carpets with a foam backing and can be repaired as above —but do not use sewing or fabric tape. Instead, having cut out the replacement piece and placed it in the squared-off damaged area, bond the edges of the foam together with a fine bead of impact adhesive. Then complete the joints with a 50mm-wide self-adhesive carpet tape and allow this to set for about two hours before turning the carpet back into position (see figs. 1-6).

Vacuuming and maintenance

Regular vacuuming is an essential part of carpet maintenance and is the only effective way to remove damaging grit which becomes embedded in the pile. If you leave this grit for a long time rapid deterioration occurs at the base of the pile.

It is worth having your vacuum cleaner regularly serviced, as it performs a very important job. Upright vacuum cleaners, for instance, need a new drive belt and brush inserts in the beater about every six to 12 months but this you can do yourself.

7 *For a larger area of damage knock nails through the corners of the replacement piece and underlay to hold it in place*

8 *Cut round the template in the manner shown in fig. 2. This is made much easier by the nails that are holding the template in place*

Carpets fall into two categories according to the type of vacuum which best suits them. Shag-pile carpets are a special case.

Wool carpets: Vacuum cylinder-type cleaners can be used on this type of carpet as and when required at any time during the carpet's life. However, the upright type of cleaner with revolving beater bar and brushes should not be used on a new wool carpet for about six months. Prior to this, the fibres in the yarn will not have had a chance to interlock sufficiently and may be pulled out.

Upright vacuum cleaners are easier to use and often more efficient but they are a little harsher on the pile than cylinder types and so should not be used more than once a week during the initial period.

Man-made fibre carpets: These can have an upright vacuum cleaner used on them from the day they are laid but limit this if possible to once a week. A cylinder-type vacuum cleaner can be used as often as required without risk of damage.

Shag-pile carpets: This type of carpet requires special care as the pile becomes tangled and flat if it is not regularly combed out with a special shag rake. You can buy one of these from any good carpet shop and it takes only a few moments to rake an average room. Shag-pile carpets are not designed for heavy use, but if they are subject to a lot of wear they should be raked every day. For vacuuming, use a suction-only cleaner or a heavy-duty upright with a high pile adjustment.

Lifting crush marks

Crush marks from heavy furniture can sometimes be removed by gentle brushing with a small, stiff brush but if this fails, the controlled application of steam can work wonders.

First vacuum the area to make sure it is quite clean, then cover the crush mark with a wet, white cotton cloth. Set a steam iron to suit the material of the carpet and hold it over the cloth so that it just touches. The resulting steam will then start to lift the pile—an action which you can assist by gently brushing against the pile after each application.

Steam only for a few minutes at a time, checking the effect as you go—oversteaming causes the yarn to untwist. Never allow the iron to be in direct contact with the pile and re-wet the cloth at frequent intervals. Leave the pile sloping in the right direction and allow it to dry. The carpet will soon look new again (see fig. B).

High tufts and loose ends

These are sometimes present in new carpets, but are more likely to be caused by snagging with a sharp object. Never pull out a loose end or tuft standing above the level of the pile: this only causes more damage. Instead, simply snip them off level with the other tufts using a sharp pair of scissors.

Carpet cleaning

Before embarking on cleaning a whole carpet, clear the room of furniture and vacuum away all loose dirt and grit. Two methods of cleaning are

9 *For this non-foamed backed tufted carpet you need to cut four lengths of hessian carpet tape to stick under each side*

10 *Spread the latex adhesive solution liberally on one side of the hessian carpet tape and let it dry for a few minutes*

11 *In order to get a really firm bind, spread more of the latex adhesive along the underside edges of the carpet*

easily possible at home: shampooing which can either be done by hand or special machine, and hot water extraction (steam cleaning).

Though simple, shampooing is not particularly satisfactory as it tends to leave a sticky residue in the pile which is very difficult to remove. The residue in turn attracts more dirt and the carpet soon becomes dirty again.

By comparison, the hot water extraction method leaves no residue at all. The system works by forcing a jet of partly vapourized hot water into the pile of the carpet via a hand-held nozzle. This will loosen and break down the particles of dirt, which are then drawn out of the pile by a powerful vacuum in another section of the same nozzle.

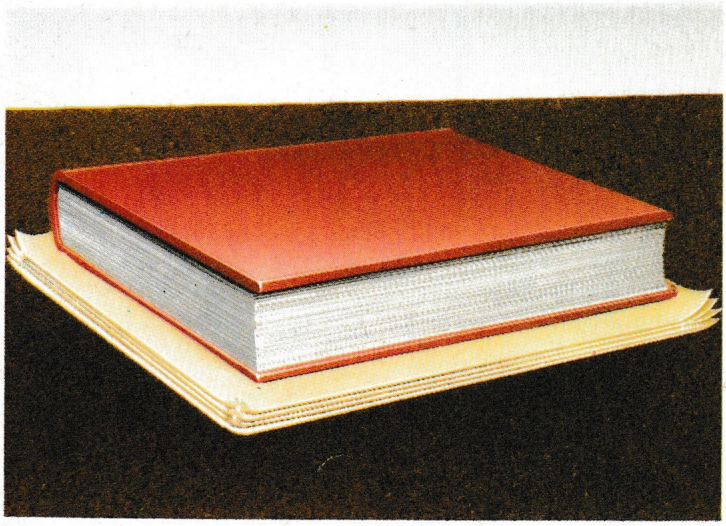
Hot water extraction machines can be hired by the day from carpet shops. They are fairly simple to use, though overwetting of the carpet must be avoided as it causes shrinkage.

Treatment for spillages

Never start by rubbing the affected area, as this only drives the stain further into the carpet. Deal with the spillage immediately and gently—scoop up as much as possible with a spoon and then mop with white tissues.

With fairly fluid stains, remarkable results can be obtained by placing a thick wad of tissues over the affected area, weighted down with, say, a heavy book. During a period of 20 minutes or so, natural capillary action draws much of the stain into the tissues. For heavy stains, change the wad of tissues several times. When you are dealing with old or stubborn stains it is probably wisest to call in professional assistance.

A. *To soak up spillages a blotting device is often the most efficient method. Blot the spill two or three times using clean tissues under a heavy book*



B. *To lift crushed pile iron very lightly over a damp piece of cotton cloth, then remove the cloth and comb the pile in the same direction as the rest*

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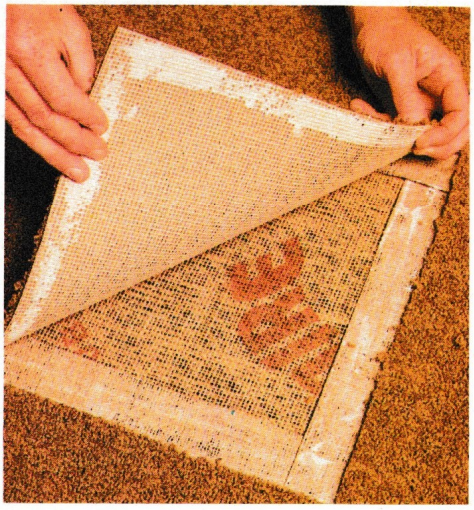

12 *Place the adhesive also on underside edges of the replacement piece and, with the hessian tape in position, join together*

13 *Push the seams into place in the same way as in fig. 6, then knock along each join lightly with a hammer to bed the edges to the tape*

Particularly important points to remember when attempting to remove the various types of carpet stains are:

- Always work with a clean, white cotton rag or white tissues
- Gently dab or wipe the stain, working inwards
- Never use excessive pressure as this only rubs the stain further in
- Change the tissue or rag as soon as it becomes soiled
- Avoid over-wetting and keep stain removers out of the backing
- Leave the pile sloping in the right direction
- Allow carpets to dry before walking on them
- Always test stain removal treatments on a spare piece of carpet.

Dealing with stains

STAIN	TREATMENT
Beer	A squirt from the soda syphon; sponge, rinse and blot dry
Blood	A squirt from the soda syphon; sponge, rinse with cold water and blot dry
Candle wax	Scrape off as much as possible. Melt and absorb the remainder by covering with blotting paper and applying the toe of a warm iron. Do not let the iron come into direct contact with the carpet or use this method with polypropylene or nylon carpets. Dab with methylated spirit to remove any remaining colour
Chewing gum	Treat with Holloway Chewing Gum Remover or dry cleaning fluid
Coffee	As for beer, but remove final traces with a dry cleaning solvent
Egg	Remove with salt water and blotting paper
Ice cream	Mild carpet shampoo solution; sponge, rinse with warm water and blot dry. Finish with a dry cleaning solvent
Ink	A squirt from the soda syphon; sponge, rinse with warm water and blot dry. Finish with dry cleaning fluid if mark persists
Lipstick	Gently wipe away with paint remover, rinse with warm water and blot dry
Milk	A squirt from the soda syphon; sponge, rinse and blot dry. Follow with mild carpet shampoo solution; sponge, rinse and blot dry. Finish with dry cleaning fluid
Soft drinks	Sponge with mild carpet shampoo solution; rinse with warm water and blot dry
Soot	Vacuum up as much as possible and treat with dry cleaning fluid
Tar	Gently scrape up the deposit. Soften with a solution of 50 per cent glycerine and 50 per cent water. Leave for up to an hour, gently wipe, rinse and blot dry. Obstinate marks can sometimes respond to treatment with dry cleaning fluid or eucalyptus oil
Tea	A squirt from the soda syphon; sponge, rinse and blot dry. Finish with peroxide, 250mls to 250mls water
Urine	A squirt from the soda syphon; sponge and rinse. Sponge with mild carpet shampoo solution, rinse and blot. Then rinse several times using cold water with a few drops of antiseptic added. Blot dry
Wine	Remove with glycerine or peroxide diluted in an equal proportion of water

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Australia

Carpets Pages 476-480

Hot water extraction machines can be hired from cleaning and equipment firms such as Cleanmaster Rental Dealers, Calendar Carpet Cleaners or Kennards Hire.

The Australian equivalent of Holloway chewing gum remover is made by Rotobic Products, Sydney and is called simply Chewing Gum Remover, available from hardware stores

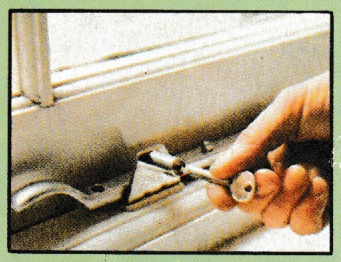
Where to buy it—UK

Double-glazing Pages 453-459
Further information from:
The Glass and Glazing Federation and the Insulation Glazing Assn. 6 Mount Row, London W1Y 6DY
Manufacturers of DIY double-glazing:
International, Commerce Way, ssex; Crittal Warmlit Ltd., Witham, Essex ex Housecrafts Ltd., Cheltenham, Glos. GL cell Products Ltd., Broad Welwyn Garden City, Herts. A1 PRB Home & Industrial Produc Ltd., Comfort House, Upper High St., Worthing, W. Sussex BN11 1DL; Town & Country Double Glazing Ltd., Reflection House, Cheshire St., London E2
Memo board Pages 468-469
Blackboard paint from:
Rustins Ltd., Drayton Works, Waterloo Rd., London NW2
Staircase storage Pages 466-469
Chipboard fittings from:
Woodfit Ltd., Whittle Low Mill, Chorley, Lancs. PR6 7HB
Guttering Pages 470-475
PVC gutter systems and fittings from:
Aeriel Plastics Ltd., Marsh Lane, Ware, Herts.; Bartol Plastics Ltd., Edlington, Doncaster, S. Yorks.; UBM Group Ltd., Group Head Office, Winterstoke Rd., Bristol, Avon; Wavin Plastics Ltd., PO Box 12, Hayes, Middx. UB3 1EY; Yorkshire Imperial Plastics Ltd., North Star Avenue, Swindon, Wilts.
Carpets Pages 476-480
Further information from:
British Carpet Manufacturers' Assn., Technical Centre, Akroyd House, Hoo Rd., Kidderminster, Worcs.

Acknowledgements

Double-glazing Pages 453-459
Materials and information courtesy of Polycell Products Ltd., Broadwater Rd., Welwyn Garden City, Herts. A17 3AZ
Caring for your carpets Pages 476-480
Demonstration courtesy of Copydex Ltd., 1 Torquay St., London W2

In next week's issue



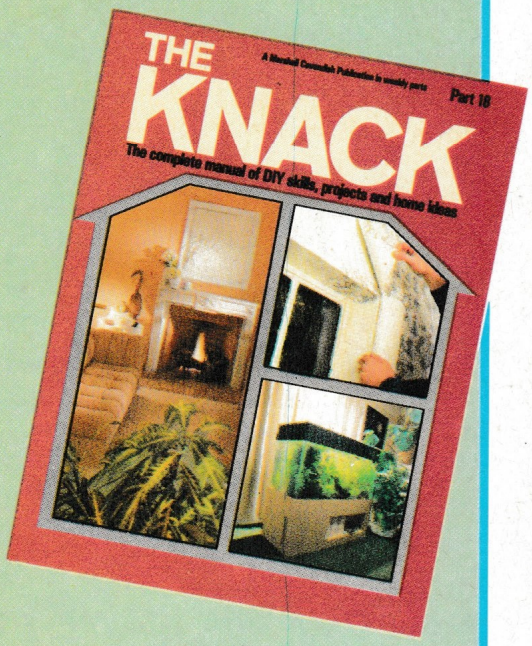
Achieving a mood: Interior designers often decide on a particular mood or style before choosing a room's decorations. We take some of the most popular moods and show how to set about achieving them

Double-glazing II: The second part of our series on double-glazing deals with problem windows and shows how to instal a versatile secondary sash system

Build an aquarium: Keeping fish can be an absorbing and interesting pastime. We show you how to get started with plans for an easy-to-build aquarium incorporating all the most up-to-date design features

Papering awkward corners: The professional tricks used here make all the difference between a good and a bad finish. We show them in step-by-step detail

Dealing with rot: Potentially the biggest danger to your home, rot is something which you cannot afford to ignore. Our feature covers both wet and dry rot, shows how to identify them, and discusses some of the treatments which are available



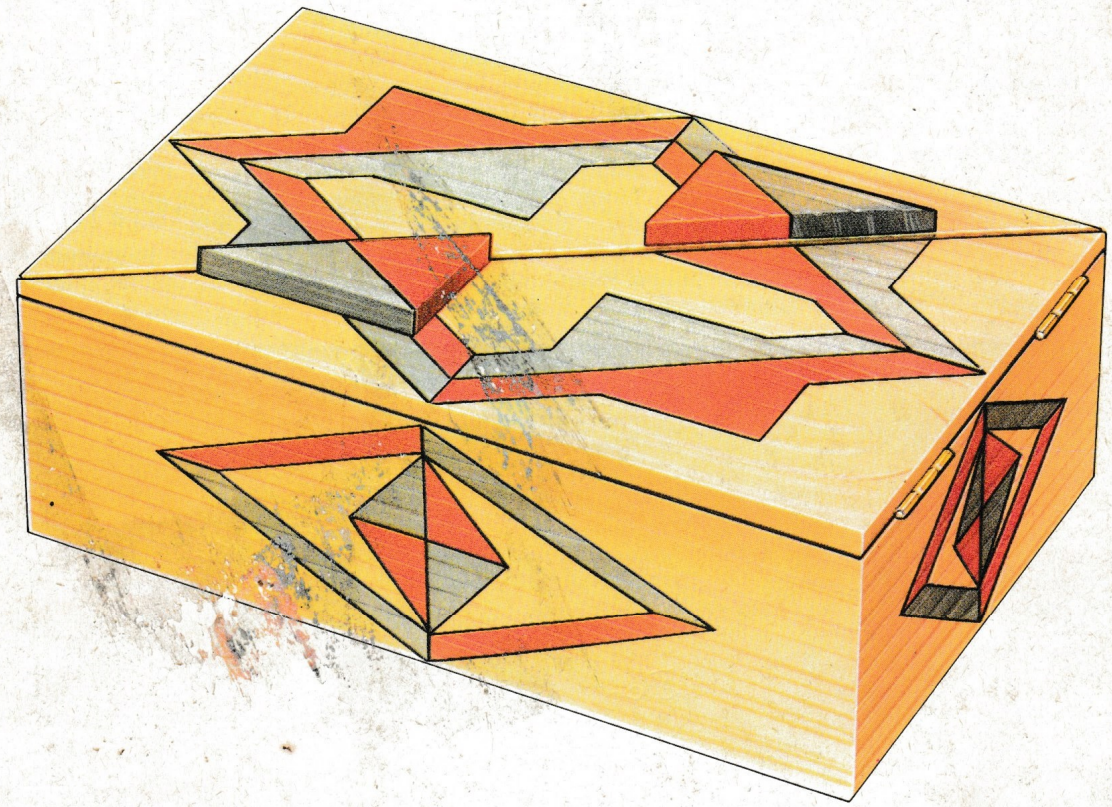
USING WOODSTAINS

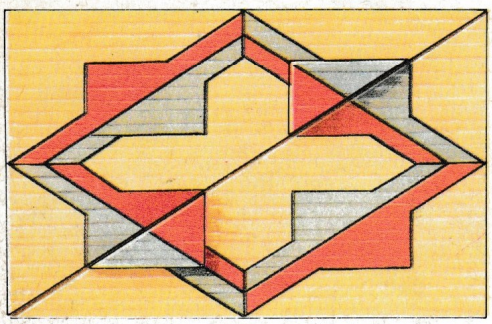
Stains differ from coloured varnishes in that they soak into the wood instead of building up on top to create a hard surface. The stain is absorbed by the wood producing an effect of depth and translucence which allows the natural grain pattern to show through the colour.

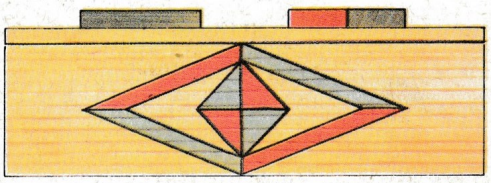
To stain a small object, such as this trinket box, first prepare the surface by sanding it smooth with fine glasspaper and then wipe it with a slightly damp cloth to ensure a dust-free surface. Mark out your chosen pattern lightly with a pencil then use a ballpoint pen to redraw the design. Use a bit of pressure on the pen to indent the surface slightly. This prevents the stain from seeping into the adjoining sections.

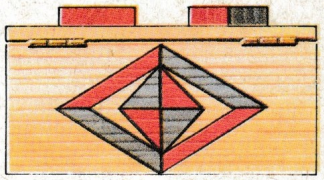
Measure out small quantities of stain and apply the chosen colours with a small brush. Do not put too much stain on the brush, and only work in small areas at a time. There are various different types of wood stain and it is important to follow the manufacturer's instructions carefully—especially with regard to mixing colours.

Allow the stain to dry for at least two hours and then rub gently with fine steel wool to remove any roughness. Finish with as many coats of polyurethane varnish as you need to get a gloss or a matt finish, according to choice.









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